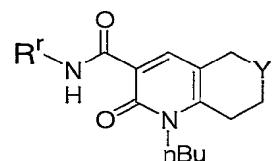
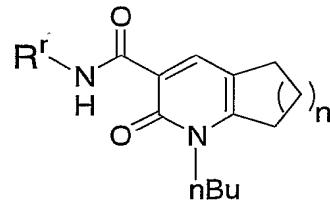


表 9 1



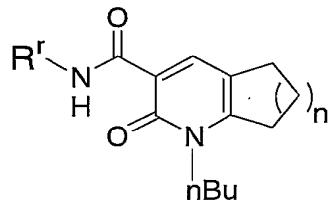
化合物 No.	R ^r	Y	¹ H-NMR (CDCl ₃)
4-024			0.98 (t, <i>J</i> = 7.5 Hz, 3H), 0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.66 (quint, <i>J</i> = 7.5 Hz, 2H), 1.67 (quint, <i>J</i> = 7.5 Hz, 2H), 2.87 (t, <i>J</i> = 7.5 Hz, 2H), 2.84 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 7.5 Hz, 2H), 3.68 (q, <i>J</i> = 6.9 Hz, 2H), 3.77 (t, <i>J</i> = 6.0 Hz, 1/3 × 2H), 3.90 (t, <i>J</i> = 6.0 Hz, 2/3 × 2H), 4.03 (t, <i>J</i> = 7.8 Hz, 2H), 4.47 (s, 2/3 × 2H), 4.58 (s, 1/3 × 2H), 7.20-7.33 (m, 5H), 8.27 (s, 2/3 × 1H), 8.30 (s, 1/3 × 1H), 9.81 (br t, <i>J</i> = 6.0 Hz, 1/3 × 1H), 9.93 (br t, <i>J</i> = 6.0 Hz, 2/3 × 1H).
4-025			1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.30 (s, 9H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.66 (quint, <i>J</i> = 7.5 Hz, 2H), 2.85 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 7.5 Hz, 2H), 3.68 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 3.90 (t, <i>J</i> = 6.0 Hz, 2H), 4.01 (t, <i>J</i> = 7.8 Hz, 2H), 4.62 (s, 2H), 7.18-7.33 (m, 5H), 8.28 (s, 1H), 9.94 (br t, <i>J</i> = 6.0 Hz, 1H).
4-026			0.88 (t, <i>J</i> = 7.5 Hz, 1/3 × 3H), 1.00 (t, <i>J</i> = 7.5 Hz, 2/3 × 3H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.65 (quint, <i>J</i> = 7.5 Hz, 2H), 2.82-3.01 (m, 4H), 3.66 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.04 (t, <i>J</i> = 6.0 Hz, 2H), 4.07 (t, <i>J</i> = 7.8 Hz, 2H), 4.39 (br s, 2/3 × 2H), 4.73 (br s, 1/3 × 2H), 7.20-7.37 (m, 7H), 8.07 (s, 2/3 × 1H), 8.35 (s, 1/3 × 1H), 8.76 (d, <i>J</i> = 4.8 Hz, 2H), 9.85 (br t, <i>J</i> = 6.0 Hz, 1H).

表 9 2



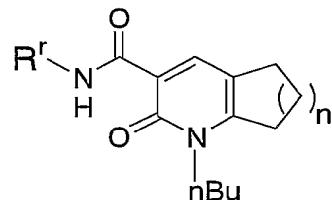
化合物 No.	R ^r	n	¹ H-NMR (CDCl ₃)
4-051		1	0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.41 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.69 (quint, <i>J</i> = 7.5 Hz, 2H), 2.19 (quint, <i>J</i> = 7.5 Hz, 2H), 2.85 (t, <i>J</i> = 7.5 Hz, 2H), 3.00 (t, <i>J</i> = 7.5 Hz, 2H), 3.98 (t, <i>J</i> = 7.8 Hz, 2H), 4.64 (d, <i>J</i> = 6.0 Hz, 2H), 7.23-7.39 (m, 5H), 8.46 (s, 1H), 10.81 (br t, <i>J</i> = 6.0 Hz, 1H).
4-052		1	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.41 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.70 (quint, <i>J</i> = 7.5 Hz, 2H), 2.19 (quint, <i>J</i> = 7.5 Hz, 2H), 2.85 (t, <i>J</i> = 7.5 Hz, 2H), 2.93 (t, <i>J</i> = 7.5 Hz, 2H), 3.00 (t, <i>J</i> = 7.5 Hz, 2H), 3.67 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 3.99 (t, <i>J</i> = 7.8 Hz, 2H), 7.18-7.34 (m, 5H), 8.43 (s, 1H), 10.05 (br t, <i>J</i> = 6.0 Hz, 1H).
4-053		3	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.44 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.57-1.65 (m, 4H), 1.68 (quint, <i>J</i> = 6.0 Hz, 2H), 1.86 (quint, <i>J</i> = 6.0 Hz, 2H), 2.71 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.15 (br t, <i>J</i> = 7.8 Hz, 2H), 4.64 (d, <i>J</i> = 6.0 Hz, 2H), 7.22-7.38 (m, 5H), 8.33 (s, 1H), 10.31 (br t, <i>J</i> = 6.0 Hz, 1H).
4-054		3	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.60-1.67 (m, 4H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 1.86 (quint, <i>J</i> = 6.0 Hz, 2H), 2.71 (t, <i>J</i> = 6.0 Hz, 2H), 2.71 (t, <i>J</i> = 7.5 Hz, 2H), 2.72 (t, <i>J</i> = 6.0 Hz, 2H), 3.66 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.17 (br t, <i>J</i> = 7.8 Hz, 2H), 7.19-7.34 (m, 5H), 8.29 (s, 1H), 10.05 (br t, <i>J</i> = 6.0 Hz, 1H).
4-055		3	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.44 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.58-1.65 (m, 4H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 1.86 (quint, <i>J</i> = 6.0 Hz, 2H), 2.71 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.15 (br t, <i>J</i> = 7.8 Hz, 2H), 4.59 (d, <i>J</i> = 6.0 Hz, 2H), 6.99 (t, <i>J</i> = 9.0 Hz, 2H), 7.32 (dd, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 8.32 (s, 1H), 10.32 (br t, <i>J</i> = 6.0 Hz, 1H).
4-056		3	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.57-1.66 (m, 4H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 1.86 (quint, <i>J</i> = 6.0 Hz, 2H), 2.71 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 7.5 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 3.63 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.8 Hz, 2H), 6.97 (t, <i>J</i> = 9.0 Hz, 2H), 7.20 (dd, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 8.29 (s, 1H), 10.04 (br t, <i>J</i> = 6.0 Hz, 1H).

表 9 3



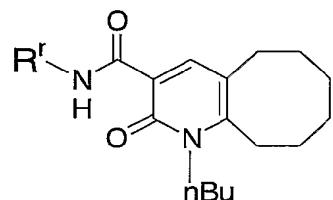
化合物 No.	R ^r	n	¹ H-NMR (CDCl ₃)
4-057		3	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.57-1.68 (m, 4H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 1.86 (quint, <i>J</i> = 6.0 Hz, 2H), 2.70 (t, <i>J</i> = 6.0 Hz, 2H), 2.84 (t, <i>J</i> = 7.5 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 3.63 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.8 Hz, 2H), 6.22 (br s, 1H), 6.76 (d, <i>J</i> = 8.4 Hz, 2H), 7.06 (d, <i>J</i> = 8.4 Hz, 2H), 8.29 (s, 1H), 10.10 (br t, <i>J</i> = 6.0 Hz, 1H).

表 9 4



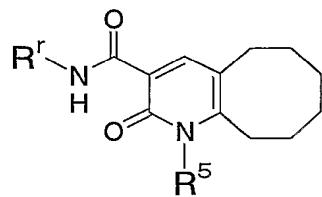
化合物 No.	R ^r	n	¹ H-NMR (CDCl ₃)
4-058		3	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.57-1.68 (m, 4H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 1.86 (quint, <i>J</i> = 6.0 Hz, 2H), 2.70 (t, <i>J</i> = 6.0 Hz, 2H), 2.81 (t, <i>J</i> = 7.5 Hz, 2H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 3.60 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.8 Hz, 2H), 6.40 (d, <i>J</i> = 8.4 Hz, 2H), 7.05 (d, <i>J</i> = 8.4 Hz, 2H), 8.29 (s, 1H), 10.00 (br t, <i>J</i> = 6.0 Hz, 1H).
4-059		3	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.44 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.56-1.68 (m, 4H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 1.87 (quint, <i>J</i> = 6.0 Hz, 2H), 2.71 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.8 Hz, 2H), 4.48 (d, <i>J</i> = 6.0 Hz, 2H), 6.05 (br s, 1H), 6.53 (br s, 1H), 6.74 (s, 2H), 6.87 (s, 1H), 8.30 (s, 1H), 10.35 (br t, <i>J</i> = 6.0 Hz, 1H).
4-060		3	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.56-1.69 (m, 4H), 1.70 (quint, <i>J</i> = 6.0 Hz, 2H), 1.87 (quint, <i>J</i> = 6.0 Hz, 2H), 2.72 (t, <i>J</i> = 6.0 Hz, 2H), 2.95 (t, <i>J</i> = 6.0 Hz, 2H), 4.18 (br t, <i>J</i> = 7.8 Hz, 2H), 4.70 (d, <i>J</i> = 6.0 Hz, 2H), 7.43 (d, <i>J</i> = 8.1 Hz, 2H), 8.00 (d, <i>J</i> = 8.1 Hz, 2H), 8.33 (s, 1H), 10.44 (br t, <i>J</i> = 6.0 Hz, 1H).
4-061		6	0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.26-1.34 (m, 4H), 1.42 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.46-1.60 (m, 4H), 1.65 (quint, <i>J</i> = 7.5 Hz, 2H), 1.80 (quint, <i>J</i> = 6.0 Hz, 2H), 1.87 (quint, <i>J</i> = 6.0 Hz, 2H), 2.73 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (br t, <i>J</i> = 6.0 Hz, 2H), 4.12 (br t, <i>J</i> = 7.8 Hz, 2H), 4.64 (d, <i>J</i> = 6.0 Hz, 2H), 7.23-7.41 (m, 5H), 8.38 (s, 1H), 10.36 (br t, <i>J</i> = 6.0 Hz, 1H).
4-062		6	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.24-1.33 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.47-1.58 (m, 4H), 1.66 (quint, <i>J</i> = 7.5 Hz, 2H), 1.80 (quint, <i>J</i> = 6.0 Hz, 2H), 1.86 (quint, <i>J</i> = 6.0 Hz, 2H), 2.73 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 7.5 Hz, 2H), 2.95 (t, <i>J</i> = 6.0 Hz, 2H), 3.67 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.14 (br t, <i>J</i> = 7.8 Hz, 2H), 7.21-7.34 (m, 5H), 8.35 (s, 1H), 10.10 (br t, <i>J</i> = 6.0 Hz, 1H).

表 9 5



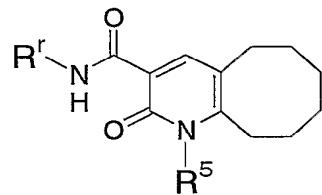
化合物 No.	R ^r	¹ H-NMR (CDCl ₃)
4-101		0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.53 (m, 4H), 1.44 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.60-1.78 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.09 (br t, <i>J</i> = 7.8 Hz, 2H), 4.64 (d, <i>J</i> = 6.0 Hz, 2H), 7.17-7.39 (m, 5H), 8.34 (s, 1H), 10.34 (br t, <i>J</i> = 6.0 Hz, 1H).
4-102		0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.34-1.53 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.62-1.80 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 7.5 Hz, 2H), 3.67 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.10 (br t, <i>J</i> = 7.8 Hz, 2H), 7.18-7.34 (m, 5H), 8.31 (s, 1H), 10.07 (br t, <i>J</i> = 6.0 Hz, 1H).
4-103		0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.58 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.59-1.74 (m, 4H), 1.76 (quint, <i>J</i> = 6.0 Hz, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 7.5 Hz, 2H), 3.64 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.09 (br t, <i>J</i> = 7.8 Hz, 2H), 6.98 (t, <i>J</i> = 8.4 Hz, 2H), 7.21 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 8.30 (s, 1H), 10.06 (br t, <i>J</i> = 6.0 Hz, 1H).
4-104		0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.52 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.73 (m, 4H), 1.76 (quint, <i>J</i> = 6.0 Hz, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.82 (t, <i>J</i> = 7.5 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.61 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.09 (br t, <i>J</i> = 7.8 Hz, 2H), 6.64 (d, <i>J</i> = 8.4 Hz, 2H), 7.05 (d, <i>J</i> = 8.4 Hz, 2H), 8.30 (s, 1H), 10.02 (br t, <i>J</i> = 6.0 Hz, 1H).
4-105		0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.52 (m, 4H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.60-1.72 (m, 4H), 1.76 (quint, <i>J</i> = 6.0 Hz, 2H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.85 (t, <i>J</i> = 7.5 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.63 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 4.10 (br t, <i>J</i> = 7.8 Hz, 2H), 6.76 (d, <i>J</i> = 8.4 Hz, 2H), 7.08 (d, <i>J</i> = 8.4 Hz, 2H), 8.31 (s, 1H), 10.10 (br t, <i>J</i> = 6.0 Hz, 1H).

表 9 6



化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
4-301			1.36 (quint, <i>J</i> = 6.0 Hz, 2H), 1.49 (quint, <i>J</i> = 6.0 Hz, 2H), 1.61-1.68 (m, 2H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 3.03 (t, <i>J</i> = 6.0 Hz, 2H), 3.30 (s, 3H), 3.67 (t, <i>J</i> = 5.4 Hz, 2H), 4.32 (t, <i>J</i> = 5.4 Hz, 2H), 4.64 (d, <i>J</i> = 6.0 Hz, 2H), 7.26-7.40 (m, 5H), 8.36 (s, 1H), 10.25 (br t, <i>J</i> = 6.0 Hz, 1H).
4-302			1.38 (quint, <i>J</i> = 4.8 Hz, 2H), 1.49 (quint, <i>J</i> = 4.8 Hz, 2H), 1.60-1.67 (m, 2H), 1.70 (quint, <i>J</i> = 6.0 Hz, 2H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 7.5 Hz, 2H), 3.03 (t, <i>J</i> = 6.0 Hz, 2H), 3.31 (s, 3H), 3.67 (dt, <i>J</i> = 9.0 Hz, 6.0 Hz, 2H), 3.68 (t, <i>J</i> = 5.4 Hz, 2H), 4.33 (t, <i>J</i> = 5.4 Hz, 2H), 7.24-7.34 (m, 5H), 8.38 (s, 1H), 9.98 (br t, <i>J</i> = 6.0 Hz, 1H).
4-303			0.99 (d, <i>J</i> = 6.7 Hz, 6H), 1.32-1.82 (m, 11H), 2.64 (t, <i>J</i> = 6.3 Hz, 2H), 2.87 (t, <i>J</i> = 6.3 Hz, 2H), 3.98-4.20 (br s, 2H), 4.64 (d, <i>J</i> = 5.8 Hz, 2H), 7.23-7.40 (m, 5H), 8.34 (s, 1H), 10.8 (t-like).
4-304			(CD ₃ OD): 1.24-1.57 (m, 2H), 1.64-1.85 (m, 2H), 2.70 (t-like, 2H), 2.94 (t-like, 2H), 3.06 (t, <i>J</i> = 7.5 Hz, 2H), 4.41 (t, <i>J</i> = 7.5 Hz, 2H), 4.61 (s, 2H), 7.22-7.40 (m, 7H), 8.44 (A ₂ B ₂ , <i>J</i> = 5.2 Hz), 8.26 (d, <i>J</i> = 0.9 Hz, 1H).
4-305			1.32-1.82 (m, 14H), 2.38-2.53 (m, 4H), 2.57 (t, <i>J</i> = 7.5 Hz, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.4 Hz, 2H), 4.26 (t-like, 1H), 4.64 (d, <i>J</i> = 5.8 Hz, 2H), 7.22-7.39 (m, 5H), 8.34 (s, 1H), 10.29 (d, <i>J</i> = 5.8 Hz, 2H).
4-306			1.32-1.50 (m, 4H), 1.52-1.72 (m, 4H), 2.17 (quint, <i>J</i> = 6.7 Hz, 2H), 2.52-2.70 (m, 4H), 3.98-4.10 (m, 2H), 4.10 (t, <i>J</i> = 6.7 Hz, 2H), 4.65 (d, <i>J</i> = 5.8 Hz, 2H), 6.98 (s, 1H), 7.10 (s, 1H), 7.22-7.40 (m, 5H), 7.54 (s, 1H), 8.35 (s, 1H), 10.19 (t, <i>J</i> = 5.8 Hz, 1H).

表 9 7



化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
4-307			1.34-1.54 (m, 4H), 1.60-1.81 (m, 4H), 1.82-1.94 (m, 2H), 2.28-2.50 (m, 6H), 2.64 (t, <i>J</i> = 6.4 Hz, 2H), 2.93 (t, <i>J</i> = 6.4 Hz, 2H), 3.70 (t, <i>J</i> = 4.5 Hz, 2H), 4.17 (t, <i>J</i> = 7.5 Hz, 2H), 4.64 (d, <i>J</i> = 5.8 Hz, 2H), 7.20-7.39 (m, 5H), 8.34 (s, 1H), 10.29 (t-like, 1H).
4-308			1.30-1.42 (m, 2H), 1.42-1.52 (m, 2H), 1.60-1.80 (m, 4H), 2.64 (t, <i>J</i> = 5.9 Hz, 2H), 2.79 (t, <i>J</i> = 6.1 Hz, 2H), 3.01 (t, <i>J</i> = 7.7 Hz, 2H), 4.31 (t, <i>J</i> = 7.7 Hz, 2H), 4.87 (t, <i>J</i> = 5.8 Hz, 2H), 7.14-7.28 (m, 2H), 7.30-7.42 (m, 4H), 7.57 (ddd, <i>J</i> = 6.0, 1.9, 1.9 Hz, 2H), 8.88 (s, 1H), 8.51 (d-like, 2H), 10.3 (t, <i>J</i> = 5.8 Hz, 1H).
4-309			1.37-1.53 (m, 4H), 1.60-1.80 (m, 4H), 2.66 (t, <i>J</i> = 6.1 Hz, 2H), 2.81 (t, <i>J</i> = 6.4 Hz, 2H), 4.64 (t, <i>J</i> = 5.8 Hz, 2H), 5.44 (br s, 2H), 7.20-7.42 (m, 7H), 8.45 (s, 1H), 8.45-8.58 (m, 2H), 10.1 (t, <i>J</i> = 5.8 Hz, 1H).
4-310			1.35-1.55 (m, 4H), 1.60-1.80 (m, 4H), 2.68 (t, <i>J</i> = 5.9 Hz, 2H), 2.74 (t, <i>J</i> = 6.1 Hz, 2H), 4.62 (t, <i>J</i> = 5.8 Hz, 2H), 5.42 (br s, 2H), 6.97 (A ₂ B ₂ , <i>J</i> = 6.1 Hz, 2H), 7.19-7.37 (m, 5H), 8.47 (s, 1H), 8.54-8.58 (m, 2H), 10.1 (t-like, 1H).

表 9 8

化合物 No.	構造	¹ H-NMR (CDCl ₃)
4-311		0.99 (t, <i>J</i> = 7.4 Hz, 3H), 1.36-1.75 (m, 12H), 2.62 (t, <i>J</i> = 5.9 Hz, 2H), 2.88 (t, <i>J</i> = 6.3 Hz, 2H), 4.08 (brs, 2H), 5.31 (m, 1H), 7.14-7.42 (m, 5H), 8.29 (s, 1H), 10.35 (d, <i>J</i> = 7.5 Hz, 1H).
4-312		0.99 (t, <i>J</i> = 7.4 Hz, 3H), 1.36-1.75 (m, 12H), 2.62 (t, <i>J</i> = 5.9 Hz, 2H), 2.88 (t, <i>J</i> = 6.3 Hz, 2H), 4.08 (brs, 2H), 5.31 (m, 1H), 7.14-7.42 (m, 5H), 8.29 (s, 1H), 10.35 (d, <i>J</i> = 7.5 Hz, 1H).
4-313		0.98 (t, <i>J</i> = 7.1 Hz, 3H), 1.40-1.76 (m, 12H), 1.42 (s, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.5 Hz, 2H), 3.19 (s, 2H), 4.07 (brs, 2H), 7.16-7.26 (m, 5H), 8.33 (s, 1H), 9.87 (s, 1H).
4-314		0.98 (t, <i>J</i> = 7.4 Hz, 3H), 1.39-1.76 (m, 12H), 2.64 (t, <i>J</i> = 5.9 Hz, 2H), 2.89 (t, <i>J</i> = 6.3 Hz, 2H), 3.93 (dd, <i>J</i> = 11.4, 4.5 Hz, 1H), 3.97 (dd, <i>J</i> = 11.4, 6.9 Hz, 1H), 4.10 (brs, 2H), 5.31 (m, 1H), 7.27-7.46 (m, 5H), 8.31 (s, 1H), 10.75 (d, <i>J</i> = 6.3 Hz, 1H).
4-315		0.98 (t, <i>J</i> = 7.4 Hz, 3H), 1.39-1.76 (m, 12H), 2.64 (t, <i>J</i> = 5.9 Hz, 2H), 2.89 (t, <i>J</i> = 6.3 Hz, 2H), 3.93 (dd, <i>J</i> = 11.4, 4.5 Hz, 1H), 3.97 (dd, <i>J</i> = 11.4, 6.9 Hz, 1H), 4.10 (brs, 2H), 5.31 (m, 1H), 7.27-7.46 (m, 5H), 8.31 (s, 1H), 10.75 (d, <i>J</i> = 6.3 Hz, 1H).
4-316		0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.32-1.76 (m, 12H), 2.63 (t, <i>J</i> = 5.9 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.91 (d, <i>J</i> = 5.7 Hz, 2H), 4.12 (brs, 2H), 5.54 (m, 1H), 7.28-7.45 (m, 5H), 8.29 (s, 1H), 10.77 (d, <i>J</i> = 7.5 Hz, 1H).
4-317		0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.32-1.76 (m, 12H), 2.63 (t, <i>J</i> = 5.9 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.91 (d, <i>J</i> = 5.7 Hz, 2H), 4.12 (brs, 2H), 5.54 (m, 1H), 7.28-7.45 (m, 5H), 8.29 (s, 1H), 10.77 (d, <i>J</i> = 7.5 Hz, 1H).
4-318		0.97 (t, <i>J</i> = 7.4 Hz, 3H), 1.38-1.75 (m, 12H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.2 Hz, 2H), 2.99 (dd, <i>J</i> = 16.0, 6.6 Hz, 2H), 3.41 (dd, <i>J</i> = 16.0, 7.5 Hz, 2H), 4.07 (brs, 2H), 4.88 (m, 1H), 7.15-7.24 (m, 4H), 8.32 (s, 1H), 10.17 (d, <i>J</i> = 6.0 Hz, 1H).

表 9 9

化合物 No.	構造	¹ H-NMR (CDCl ₃)
4-319		0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.25-1.77 (m, 12H), 2.18 (m, 1H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.4 Hz, 2H), 3.14 (m, 1H), 4.10 (brs, 2H), 7.16-7.30 (m, 5H), 8.33 (s, 1H), 10.12 (d, <i>J</i> = 3.6 Hz, 1H).
4-320		1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.30-1.55 (m, 6H), 1.59 (s, 6H), 1.56-1.89 (m, 6H), 2.58 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.3 Hz, 2H), 4.00-4.23 (m, 2H), 7.10-7.40 (m, 5H), 7.46 (d, <i>J</i> = 8.4 Hz, 2H), 8.28 (s, 1H).
4-321		1.35-2.04 (m, 8H), 2.03-2.15 (m, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.88-2.96 (m, 4H), 3.63-3.71 (m, 2H), 3.78 (t, <i>J</i> = 6.0 Hz, 2H), 4.05 (dd, <i>J</i> = 6.9, 2.1 Hz, 2H), 4.18-4.27 (m, 3H), 6.49 (dd, <i>J</i> = 14.1, 6.6 Hz, 1H), 7.15-7.35 (m, 5H), 8.32 (s, 1H), 10.01 (brs, 1H).
4-322		1.35-2.04 (m, 8H), 2.03-2.15 (m, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.88-2.96 (m, 4H), 3.63-3.71 (m, 2H), 3.78 (t, <i>J</i> = 6.0 Hz, 2H), 4.05 (dd, <i>J</i> = 6.9, 2.1 Hz, 2H), 4.18-4.27 (m, 3H), 6.49 (dd, <i>J</i> = 14.1, 6.6 Hz, 1H), 7.15-7.35 (m, 5H), 8.32 (s, 1H), 10.01 (brs, 1H).
4-323		1.20-1.90 (m, 8H), 2.13-2.28 (m, 2H), 2.55-2.72 (m, 2H), 2.82-3.02 (m, 2H), 3.62-3.78 (m, 2H), 4.20-4.88 (m, 2H), 4.64 (d, <i>J</i> = 6.3 Hz, 2H), 7.18-7.43 (m, 5H), 8.36 (s, 1H).
4-324		1.20-1.90 (m, 8H), 2.12-2.28 (m, 2H), 2.65 (t, <i>J</i> = 6.6 Hz, 2H), 2.92-3.02 (m, 4H), 3.60-3.78 (m, 4H), 4.29 (t, <i>J</i> = 9.0 Hz, 2H), 7.10-7.40 (m, 5H), 8.33 (s, 1H).
4-325		1.37-1.80 (m, 8H), 2.02 (m, 2H), 2.65 (t, <i>J</i> = 6.3 Hz, 2H), 2.92 (t, <i>J</i> = 6.6 Hz, 2H), 3.77 (t, <i>J</i> = 5.4 Hz, 2H), 4.04 (dd, <i>J</i> = 6.9, 2.1 Hz, 1H), 4.16-4.26 (m, 3H), 4.65 (d, <i>J</i> = 6.0 Hz, 2H), 6.48 (dd, <i>J</i> = 14.1, 6.6 Hz, 1H), 7.21-7.42 (m, 5H), 8.35 (s, 1H), 10.29 (brs, 1H).
4-326		1.37 (m, 8H), 2.07 (m, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.90-2.96 (m, 4H), 3.63-3.71 (m, 2H), 3.78 (t, <i>J</i> = 6.0 Hz, 2H), 4.05 (dd, <i>J</i> = 6.9 Hz, 2.1 Hz, 1H), 4.18-4.27 (m, 3H), 6.49 (dd, <i>J</i> = 14.1, 6.6 Hz, 1H), 7.18-7.33 (m, 5H), 8.32 (s, 1H), 10.01 (brs, 1H).

表 100

化合物 No.	構造	¹ H-NMR (CDCl ₃)
4-327		1.88-1.81 (m, 8H), 1.88-1.96 (m, 2H), 2.66 (t, <i>J</i> = 6.3 Hz, 2H), 2.98 (t, <i>J</i> = 6.3 Hz, 2H), 3.52 (t, <i>J</i> = 5.1 Hz, 2H), 3.72 (brs, 1H), 4.65 (d, <i>J</i> = 6.8 Hz, 2H), 7.22-7.38 (m, 5H), 8.40 (s, 1H), 10.18 (brs, 1H).
4-328		1.88-1.95 (m, 10H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.90-2.94 (m, 4H), 3.45-3.52 (m, 2H), 3.65-3.72 (m, 2H), 3.91 (brs, 1H), 4.84 (brs, 2H), 7.20-7.35 (m, 5H), 8.37 (s, 1H), 9.88 (brs, 1H).
4-329		0.96 (t, <i>J</i> = 6.9 Hz, 3H), 1.30-1.55 (m, 6H), 1.55-1.82 (m, 6H), 1.97 (ddd, <i>J</i> = 16.5, 12.9, 8.4 Hz, 1H), 2.60-2.73 (m, 3H), 2.84-2.96 (m, 3H), 3.03 (ddd, <i>J</i> = 16.5, 9.3, 8.6 Hz, 1H), 3.93-4.20 (m, 2H), 5.67 (q-like, 1H), 7.10-7.35 (m, 3H), 7.38 (m, 1H), 8.37 (s, 1H).
4-330		1.25-1.28 (m, 14H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.80 (brs, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.22 (m, 2H), 4.65 (d, <i>J</i> = 6.0 Hz, 2H), 7.24-7.39 (m, 5H), 8.36 (s, 1H), 10.25 (brs, 1H).
4-331		1.87-1.90 (m, 12H), 2.64 (t, <i>J</i> = 6.3 Hz, 2H), 2.80 (m, 2H), 2.90-2.96 (m, 4H), 3.68 (q, <i>J</i> = 6.3 Hz, 2H), 4.23 (brs, 2H), 7.21-7.33 (m, 5H), 8.33 (s, 1H), 9.98 (brs, 1H).
4-332		1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.33-1.54 (m, 6H), 1.55-1.79 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.3 Hz, 2H), 2.98 (d, <i>J</i> = 7.5 Hz, 2H), 3.66 (dd, <i>J</i> = 10.1, 6.3 Hz, 1H), 3.79 (dd, <i>J</i> = 10.1, 3.6 Hz, 1H), 4.33 (m, 1H), 7.18-7.40 (m, 5H), 8.27 (s, 1H).
4-333		1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.33-1.54 (m, 6H), 1.55-1.79 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.3 Hz, 2H), 2.98 (d, <i>J</i> = 7.5 Hz, 2H), 3.66 (dd, <i>J</i> = 10.1, 6.3 Hz, 1H), 3.79 (dd, <i>J</i> = 10.1, 3.6 Hz, 1H), 4.33 (m, 1H), 7.18-7.40 (m, 5H), 8.27 (s, 1H).

表 101

化合物 No.	構造	¹ H-NMR (CDCl ₃)
4-501		0.95 (t, <i>J</i> = 7.5 Hz, 3H), 1.87 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.66-1.77 (m, 6H), 2.57 (br t, <i>J</i> = 6.3 Hz, 2H), 3.27 (br t, <i>J</i> = 6.3 Hz, 2H), 3.92 (t, <i>J</i> = 7.5 Hz, 2H), 4.60 (d, <i>J</i> = 5.7 Hz, 2H), 7.12 (s, 1H), 7.23-7.40 (m, 5H), 9.58 (br t, <i>J</i> = 5.7 Hz, 1H).
4-502		0.95 (t, <i>J</i> = 7.5 Hz, 3H), 1.87 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.66-1.77 (m, 6H), 2.56 (br t, <i>J</i> = 6.3 Hz, 2H), 3.27 (br t, <i>J</i> = 6.3 Hz, 2H), 3.92 (t, <i>J</i> = 7.5 Hz, 2H), 4.50 (s, 2H), 5.92 (s, 2H), 6.75 (d, <i>J</i> = 8.4 Hz, 1H), 6.83 (d, <i>J</i> = 8.4 Hz, 1H), 6.88 (s, 1H), 7.13 (s, 1H), 9.58 (br s, 1H).
4-503		0.95 (t, <i>J</i> = 7.5 Hz, 3H), 1.87 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.65-1.77 (m, 6H), 2.56 (br t, <i>J</i> = 6.3 Hz, 2H), 3.27 (br t, <i>J</i> = 6.3 Hz, 2H), 3.79 (s, 3H), 3.91 (t, <i>J</i> = 7.5 Hz, 2H), 4.53 (s, 2H), 6.86 (d, <i>J</i> = 8.4 Hz, 2H), 7.12 (s, 1H), 7.30 (d, <i>J</i> = 8.4 Hz, 2H), 9.54 (br s, 1H).
4-504		0.95 (t, <i>J</i> = 7.2 Hz, 3H), 1.87 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.66-1.78 (m, 6H), 2.56 (br t, <i>J</i> = 6.3 Hz, 2H), 3.27 (br t, <i>J</i> = 6.3 Hz, 2H), 3.92 (t, <i>J</i> = 7.2 Hz, 2H), 4.58 (s, 2H), 6.27 (dd, <i>J</i> = 3.0 Hz, 0.9 Hz, 1H), 6.30 (dd, <i>J</i> = 3.0 Hz, 1.8 Hz, 1H), 7.13 (s, 1H), 7.35 (dd, <i>J</i> = 1.8 Hz, 0.9 Hz, 1H), 9.65 (br s, 1H).
4-505		0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.43 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63-1.78 (m, 4H), 1.87 (quint, <i>J</i> = 6.0 Hz, 2H), 2.57 (t, <i>J</i> = 6.0 Hz, 2H), 2.78 (t, <i>J</i> = 6.0 Hz, 2H), 3.90 (s, 3H), 4.02 (t, <i>J</i> = 7.8 Hz, 2H), 7.92 (s, 1H).

表 1 0 2

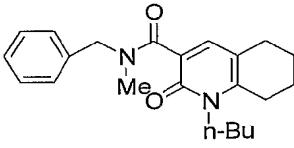
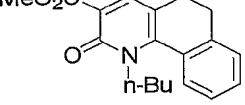
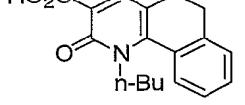
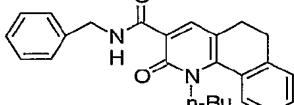
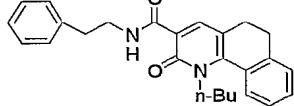
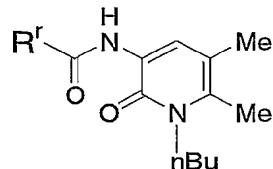
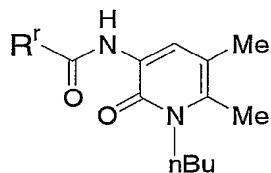
化合物 No.	構造	¹ H-NMR (CDCl ₃)
4-506		0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.42 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.60-1.77 (m, 4H), 1.84 (quint, <i>J</i> = 6.0 Hz, 2H), 2.54 (t, <i>J</i> = 6.0 Hz, 2H), 2.70 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (s, 3H), 4.02 (t, <i>J</i> = 7.8 Hz, 2H), 4.75 (s, 2H), 7.17-7.40 (m, 6H). (minor isomer): δ 0.95 (t, <i>J</i> = 7.5 Hz, 3H), 1.41 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.60-1.77 (m, 4H), 1.83 (quint, <i>J</i> = 6.0 Hz, 2H), 2.50 (t, <i>J</i> = 6.0 Hz, 2H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.97 (s, 3H), 4.01 (t, <i>J</i> = 7.8 Hz, 2H), 4.49 (s, 2H), 7.17-7.40 (m, 6H).
4-507		0.89 (t, <i>J</i> = 7.5 Hz, 3H), 1.30 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.92 (quint, <i>J</i> = 6.9 Hz, 2H), 2.57, 2.77 (ABq, <i>J</i> = 9.0 Hz, 2H), 2.58, 2.76 (ABq, <i>J</i> = 7.5 Hz, 2H), 3.93 (s, 3H), 4.80 (t, <i>J</i> = 7.5 Hz, 2H), 7.31-7.41 (m, 3H), 7.56 (dd, <i>J</i> = 7.2 Hz, 2.4 Hz, 1H), 8.10 (s, 1H).
4-508		0.91 (t, <i>J</i> = 7.5 Hz, 3H), 1.30 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.91 (quint, <i>J</i> = 6.6 Hz, 2H), 2.65, 2.80 (ABq, <i>J</i> = 9.0 Hz, 2H), 2.66, 2.79 (ABq, <i>J</i> = 7.5 Hz, 2H), 4.42 (t, <i>J</i> = 7.5 Hz, 2H), 7.38-7.46 (m, 3H), 7.57 (d, <i>J</i> = 7.5 Hz, 1H), 8.39 (s, 1H), 14.77 (br s, 1H).
4-509		0.88 (t, <i>J</i> = 7.5 Hz, 3H), 1.27 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.87 (quint, <i>J</i> = 6.0 Hz, 2H), 2.62, 2.78 (ABq, <i>J</i> = 9.0 Hz, 2H), 2.64, 2.76 (ABq, <i>J</i> = 7.5 Hz, 2H), 4.35 (t, <i>J</i> = 7.5 Hz, 2H), 4.68 (d, <i>J</i> = 6.0 Hz, 2H), 7.21-7.41 (m, 8H), 7.53 (dd, <i>J</i> = 6.9 Hz, 2.4 Hz, 1H), 8.46 (s, 1H), 10.33 (br t, <i>J</i> = 6.0 Hz, 1H).
4-510		0.90 (t, <i>J</i> = 7.5 Hz, 3H), 1.29 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.87 (quint, <i>J</i> = 6.6 Hz, 2H), 2.62, 2.78 (ABq, <i>J</i> = 9.0 Hz, 2H), 2.63, 2.76 (ABq, <i>J</i> = 7.5 Hz, 2H), 2.96 (t, <i>J</i> = 7.5 Hz, 2H), 3.66-3.74 (m, 2H), 4.36 (t, <i>J</i> = 7.5 Hz, 2H), 7.19-7.37 (m, 8H), 7.53 (dd, <i>J</i> = 6.9 Hz, 2.4 Hz, 1H), 8.42 (s, 1H), 10.06 (br t, <i>J</i> = 6.0 Hz, 1H).

表 103



化合物 No.	R ^r	¹ H-NMR (CDCl ₃)
5-001	Me	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.87-1.50 (m, 2H), 1.60-1.70 (m, 2H), 2.12 (s, 3H), 2.17 (s, 3H), 2.30 (s, 3H), 4.10 (t, <i>J</i> = 7.8 Hz, 2H), 8.20 (s, 1H), 8.35 (br s, 1H).
5-002		1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.40-1.52 (m, 2H), 1.64-1.74 (m, 2H), 2.17 (s, 3H), 2.34 (s, 3H), 4.14 (t, <i>J</i> = 7.8 Hz, 2H), 7.44-7.57 (m, 3H), 7.92-7.95 (m, 2H), 8.41 (s, 1H), 9.22 (br s, 1H).
5-003		0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.39-1.52 (m, 2H), 1.64-1.74 (m, 2H), 2.16 (s, 3H), 2.34 (s, 3H), 4.13 (t, <i>J</i> = 7.8 Hz, 2H), 7.15-7.24 (m, 1H), 7.30 (dd, 1.8, 8.4 Hz, 1H), 7.47-7.54 (m, 1H), 8.12 (dt, 1.8, 7.8 Hz, 1H), 8.42 (s, 1H), 9.75 (br s, 1H).
5-004		1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.40-1.52 (m, 2H), 1.63-1.74 (m, 2H), 2.17 (s, 3H), 2.34 (s, 3H), 4.13 (t, <i>J</i> = 7.8 Hz, 2H), 7.12-7.18 (m, 2H), 7.93-7.97 (m, 2H), 8.37 (s, 1H), 9.16 (br s, 1H).
5-005		0.98 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.50 (m, 2H), 1.64-1.72 (m, 2H), 2.17 (s, 3H), 2.34 (s, 3H), 4.11 (t, <i>J</i> = 7.8 Hz, 2H), 7.31-7.47 (m, 3H), 7.73 (dd, <i>J</i> = 2.1, 7.2 Hz, 1H), 8.41 (s, 1H), 9.13 (br s, 1H).
5-006		0.98 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.50 (m, 2H), 1.61-1.72 (m, 2H), 2.17 (s, 3H), 2.34 (s, 3H), 2.53 (s, 3H), 4.11 (t, <i>J</i> = 7.8 Hz, 2H), 7.20-7.26 (m, 2H), 7.32-7.37 (m, 1H), 7.54 (d, <i>J</i> = 7.8 Hz, 1H), 8.39 (s, 1H), 8.74 (br s, 1H).
5-007		1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.40-1.52 (m, 2H), 1.64-1.74 (m, 2H), 2.17 (s, 3H), 2.34 (s, 3H), 2.42 (s, 3H), 4.13 (t, <i>J</i> = 7.8 Hz, 2H), 7.35 (m, 2H), 7.74 (m, 2H), 8.41 (s, 1H), 9.21 (br s, 1H).
5-008		0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.40-1.52 (m, 2H), 1.64-1.74 (m, 2H), 2.16 (s, 3H), 2.34 (s, 3H), 2.41 (s, 3H), 4.13 (t, <i>J</i> = 7.8 Hz, 2H), 7.27 (d, <i>J</i> = 8.1 Hz, 2H), 7.84 (d, <i>J</i> = 8.1 Hz, 2H), 8.40 (s, 1H), 9.20 (br s, 1H).
5-009		1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.40-1.52 (m, 2H), 1.64-1.74 (m, 2H), 2.17 (s, 3H), 2.35 (s, 3H), 4.13 (t, <i>J</i> = 7.8 Hz, 2H), 7.20-7.27 (m, 1H), 7.41-7.48 (m, 1H), 7.63-7.70 (m, 2H), 8.38 (s, 1H), 9.19 (br s, 1H).
5-010		0.98 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.50 (m, 2H), 1.62-1.73 (m, 2H), 2.20 (s, 3H), 2.36 (s, 3H), 4.12 (t, <i>J</i> = 7.8 Hz, 2H), 7.46-7.59 (m, 3H), 7.79 (dd, <i>J</i> = 1.2, 7.2 Hz, 1H), 7.88 (dd, 1.5, 7.2 Hz, 1H), 7.95 (d, <i>J</i> = 8.1 Hz, 1H), 8.45 (dd, <i>J</i> = 1.5, 7.5 Hz, 1H), 8.50 (s, 1H), 8.95 (br s, 1H).
5-011		1.01 (t, <i>J</i> = 7.2 Hz, 3H), 1.42-1.54 (m, 2H), 1.66-1.76 (m, 2H), 2.19 (s, 3H), 2.36 (s, 3H), 4.16 (t, <i>J</i> = 7.8 Hz, 2H), 7.53-7.62 (m, 2H), 7.88-8.03 (m, 4H), 8.47 (s, 2H), 9.41 (br s, 1H).

表 104

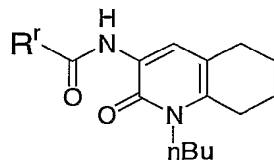


化合物 No.	R ^r	¹ H-NMR (CDCl ₃)
5-012		0.96 (t, <i>J</i> = 7.2 Hz, 3H), 1.35-1.47 (m, 2H), 1.57-1.67 (m, 2H), 2.09 (s, 3H), 2.28 (s, 3H), 3.72 (s, 2H), 4.05 (t, <i>J</i> = 7.8 Hz, 2H), 7.28-7.40 (m, 5H), 8.22 (s, 1H), 8.40 (br s, 1H).
5-013		0.98 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.49 (m, 2H), 1.60-1.70 (m, 2H), 2.12 (s, 3H), 2.81 (s, 3H), 2.69 (t, <i>J</i> = 7.5 Hz, 2H), 3.04 (t, <i>J</i> = 7.5 Hz, 2H), 4.09 (t, <i>J</i> = 7.8 Hz, 2H), 7.17-7.34 (m, 5H), 8.23 (s, 1H), 8.35 (br s, 1H).
5-014		0.92 (t, <i>J</i> = 7.2 Hz, 3H), 1.31-1.39 (m, 2H), 1.51-1.62 (m, 2H), 2.11 (s, 3H), 2.88 (s, 3H), 4.05 (t, <i>J</i> = 7.8 Hz, 2H), 7.54-7.64 (m, 3H), 7.83 (d, <i>J</i> = 7.5 Hz, 1H), 8.14 (s, 1H), 8.99 (s, 1H), 13.06 (br s, 1H).
5-015	nBuO-	0.94 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.49 (m, 4H), 1.60-1.70 (m, 4H), 2.11 (s, 3H), 2.29 (s, 3H), 4.09 (t, <i>J</i> = 7.8 Hz, 2H), 4.15 (t, <i>J</i> = 6.6 Hz, 2H), 7.78 (br s, 1H), 7.85 (br s, 1H).
5-016		0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.39-1.51 (m, 2H), 1.62-1.73 (m, 2H), 2.11 (s, 3H), 2.81 (s, 3H), 4.13 (t, <i>J</i> = 7.8 Hz, 2H), 7.16-7.41 (m, 5H), 7.88 (s, 1H), 8.09 (br s, 1H).
5-017	BnO-	0.97 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.48 (m, 2H), 1.59-1.69 (m, 2H), 2.11 (s, 3H), 2.29 (s, 3H), 4.08 (t, <i>J</i> = 7.8 Hz, 2H), 5.19 (s, 2H), 7.26-7.41 (m, 5H), 7.83 (s, 1H), 7.86 (s, 1H).
5-018		0.90 (t, <i>J</i> = 7.2 Hz, 3H), 1.27-1.40 (m, 2H), 1.57-1.67 (m, 2H), 2.14 (s, 3H), 2.31 (s, 3H), 4.09 (t, <i>J</i> = 7.8 Hz, 2H), 6.91-6.97 (m, 1H), 7.28-7.34 (m, 1H), 7.49 (br s, 1H), 7.50-7.54 (m, 1H), 8.08-8.11 (m, 1H), 8.10 (s, 1H), 8.38 (br s, 1H).
5-019		1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.39-1.51 (m, 2H), 1.61-1.71 (m, 2H), 2.15 (s, 3H), 2.35 (s, 3H), 4.15 (t, <i>J</i> = 7.8 Hz, 2H), 6.98-7.03 (m, 1H), 7.25-7.30 (m, 2H), 7.41-7.45 (m, 2H), 8.03 (s, 1H).
5-020		0.98 (t, <i>J</i> = 7.2 Hz, 3H), 1.42-1.75 (m, 4H), 2.12 (s, 3H), 4.27 (t, <i>J</i> = 7.8 Hz, 2H), 7.48-7.61 (m, 3H), 8.04-8.09 (m, 3H), 8.98 (s, 1H), 10.35 (br s, 1H).

表 105

化合物 No.	構造	¹ H-NMR (CDCl ₃)
5-101		0.97 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.49 (m, 2H), 1.60-1.70 (m, 2H), 2.04 (s, 3H), 2.22 (s, 3H), 4.08 (t, <i>J</i> = 7.5 Hz, 2H), 4.51 (s, 2H), 6.27 (s, 1H), 7.30-7.35 (m, 2H), 7.48-7.52 (m, 1H), 7.69-7.72 (m, 1H).
5-102		0.98 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.49 (m, 2H), 1.59-1.69 (m, 2H), 2.18 (s, 3H), 2.88 (s, 3H), 4.10 (t, <i>J</i> = 7.8 Hz, 2H), 7.23-7.43 (m, 1H), 7.42-7.43 (m, 4H), 8.86 (s, 1H).
5-103		0.92 (t, <i>J</i> = 7.2 Hz, 3H), 1.25-1.37 (m, 2H), 1.45-1.55 (m, 2H), 2.08 (s, 3H), 2.23 (s, 3H), 3.97 (t, <i>J</i> = 7.8 Hz, 2H), 7.35 (s, 1H), 7.41-7.55 (m, 2H), 7.65 (br s, 1H), 7.83-7.87 (m, 2H).
5-104		0.95 (t, <i>J</i> = 7.2 Hz, 3H), 1.33-1.45 (m, 2H), 1.59-1.70 (m, 2H), 2.00 (s, 3H), 2.80 (s, 3H), 4.10 (t, <i>J</i> = 7.8 Hz, 2H), 7.03 (s, 1H), 7.28-7.44 (m, 6H), 7.79-7.82 (m, 4H).
5-105		0.96 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.49 (m, 2H), 1.62-1.73 (m, 2H), 2.16 (s, 3H), 2.89 (s, 3H), 4.11 (t, <i>J</i> = 8.1 Hz, 2H), 7.30 (s, 1H), 7.72-7.77 (m, 2H), 7.88-7.94 (m, 2H).
5-106		0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.40-1.52 (m, 2H), 1.64-1.75 (m, 2H), 2.20 (s, 3H), 2.87 (s, 3H), 4.15 (t, <i>J</i> = 7.8 Hz, 2H), 7.38-7.50 (m, 3H), 7.89-7.92 (m, 2H), 9.57 (s, 1H), 10.60 (br s, 1H).

表 106



化合物 No.	R ^r	¹ H-NMR (CDCl ₃)
6-001		0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.66 (quint, <i>J</i> = 7.5 Hz, 2H), 1.74 (quint, <i>J</i> = 6.0 Hz, 2H), 1.87 (quint, <i>J</i> = 6.0 Hz, 2H), 2.60 (t, <i>J</i> = 6.0 Hz, 2H), 2.69 (t, <i>J</i> = 6.0 Hz, 2H), 4.06 (t, <i>J</i> = 7.8 Hz, 2H), 7.43-7.56 (m, 3H), 7.94 (d, <i>J</i> = 6.9 Hz, 2H), 8.31 (s, 1H), 9.26 (br s, 1H).
6-002		0.95 (t, <i>J</i> = 7.5 Hz, 3H), 1.40 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.56-1.65 (m, 2H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 1.82 (quint, <i>J</i> = 6.0 Hz, 2H), 2.52 (t, <i>J</i> = 6.0 Hz, 2H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 3.72 (s, 2H), 3.98 (t, <i>J</i> = 7.8 Hz, 2H), 7.27-7.39 (m, 5H), 8.13 (s, 1H), 8.44 (br s, 1H).
6-003		0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.42 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61 (quint, <i>J</i> = 7.5 Hz, 2H), 1.71 (quint, <i>J</i> = 6.0 Hz, 2H), 1.84 (quint, <i>J</i> = 6.0 Hz, 2H), 2.55 (t, <i>J</i> = 6.0 Hz, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.70 (t, <i>J</i> = 7.8 Hz, 2H), 3.04 (t, <i>J</i> = 7.8 Hz, 2H), 4.02 (t, <i>J</i> = 7.8 Hz, 2H), 7.18-7.33 (m, 5H), 8.15 (s, 1H), 8.41 (br s, 1H).
6-004		0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.41 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.64 (quint, <i>J</i> = 7.5 Hz, 2H), 1.72 (quint, <i>J</i> = 6.0 Hz, 2H), 1.85 (quint, <i>J</i> = 6.0 Hz, 2H), 2.57 (t, <i>J</i> = 6.0 Hz, 2H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 4.03 (t, <i>J</i> = 7.8 Hz, 2H), 4.60 (s, 2H), 7.03 (d, <i>J</i> = 7.8 Hz, 2H), 7.32 (d, <i>J</i> = 7.8 Hz, 3H), 8.19 (s, 1H), 9.49 (br s, 1H).
6-005		0.92 (t, <i>J</i> = 7.5 Hz, 3H), 1.32 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.57-1.65 (m, 2H), 1.69 (quint, <i>J</i> = 6.0 Hz, 2H), 1.82 (quint, <i>J</i> = 6.0 Hz, 2H), 2.55 (t, <i>J</i> = 6.0 Hz, 2H), 2.59 (t, <i>J</i> = 6.0 Hz, 2H), 3.90 (t, <i>J</i> = 7.8 Hz, 2H), 4.46 (d, <i>J</i> = 6.0 Hz, 2H), 5.72 (br s, 1H), 7.24-7.32 (m, 5H), 7.95 (s, 1H), 8.00 (br s, 1H).
6-006		(in d_6 -DMSO): 0.93 (t, <i>J</i> = 7.5 Hz, 3H), 1.35 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.56 (quint, <i>J</i> = 7.5 Hz, 2H), 1.60-1.70 (m, 2H), 1.71-1.80 (m, 2H), 2.51 (t, <i>J</i> = 6.0 Hz, 2H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 4.00 (t, <i>J</i> = 7.5 Hz, 2H), 6.96 (t, <i>J</i> = 7.2 Hz, 1H), 7.27 (t, <i>J</i> = 7.5 Hz, 2H), 7.43 (d, <i>J</i> = 7.5 Hz, 2H), 7.84 (s, 1H), 8.53 (br s, 1H), 9.51 (br s, 1H).
6-007		0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.41 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63 (quint, <i>J</i> = 7.5 Hz, 2H), 1.70 (quint, <i>J</i> = 6.0 Hz, 2H), 1.83 (quint, <i>J</i> = 6.0 Hz, 2H), 2.53 (t, <i>J</i> = 6.0 Hz, 2H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 4.01 (t, <i>J</i> = 7.8 Hz, 2H), 5.19 (s, 2H), 7.29-7.41 (m, 5H), 7.76 (s, 1H), 7.86 (br s, 1H).

表 107

化合物 No.	構造	¹ H-NMR (CDCl ₃)
7-001		0.71 (t, <i>J</i> = 7.2 Hz, 3H), 1.10-1.23 (m, 2H), 1.46-1.55 (m, 2H), 2.22 (s, 3H), 2.43 (s, 8H), 4.28 (t, <i>J</i> = 6.3 Hz, 2H), 7.20-7.29 (m, 2H), 7.38-7.41 (m, 1H), 7.58-7.60 (m, 1H), 7.67 (s, 1H).
7-002		0.97 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.49 (m, 2H), 1.60-1.80 (m, 2H), 2.21 (s, 3H), 2.44 (s, 3H), 2.48 (s, 3H), 4.71 (br s, 2H), 7.30-7.35 (m, 3H), 8.01 (s, 1H), 8.04 (s, 1H).
7-003		0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.50 (m, 2H), 1.62-1.73 (m, 2H), 2.07 (s, 3H), 2.33 (s, 3H), 4.09 (t, <i>J</i> = 7.8 Hz, 2H), 6.96 (s, 1H).
7-004		2.07 (s, 3H), 2.28 (s, 3H), 3.88 (s, 3H), 5.42 (br s, 2H), 7.19-7.54 (m, 9H).
7-005		1.10 (t, <i>J</i> = 7.5 Hz, 3H), 2.30 (s, 3H), 2.53 (q, <i>J</i> = 7.5 Hz, 2H), 3.85 (s, 3H), 5.41 (br s, 2H), 7.18-7.55 (m, 9H).
7-006		0.84 (t, <i>J</i> = 7.2 Hz, 8H), 1.28 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.68 (m, 2H), 2.46 (s, 3H), 4.42 (t, <i>J</i> = 6.6 Hz, 2H), 4.64 (d, <i>J</i> = 5.1 Hz, 1H), 6.87 (d, <i>J</i> = 6.0 Hz, 1H), 7.26-7.37 (m, 5H), 8.32 (br s, 1H), 8.42 (d, <i>J</i> = 7.5 Hz, 1H).
7-007		0.95 (t, <i>J</i> = 7.2 Hz, 3H), 1.39 (m, 2H), 1.74 (m, 2H), 3.98 (t, <i>J</i> = 7.5 Hz, 2H), 4.50 (d, <i>J</i> = 5.7 Hz, 1H), 4.60 (d, 5.7 Hz, 1H), 5.9 (brs, 1H), 6.36 (brs, 1H), 6.56 (dd, <i>J</i> = 9.6, 3.6 Hz, 1H), 7.25-7.36 (m, 5H), 7.86 (m, 1H), 8.22 (m, 2H).
7-008		0.96 (t, <i>J</i> = 7.3 Hz, 3H), 1.32-1.45 (m, 2H), 1.69-1.79 (m, 2H), 3.96 (t, <i>J</i> = 7.6 Hz, 2H), 4.44 (s, 2H), 7.19-7.30 (m, 3H), 7.40-7.43 (m, 1H), 7.59-7.62 (m, 1H), 7.66 (dd, <i>J</i> = 7.0 Hz, 1H).
7-009		0.96 (t, <i>J</i> = 7.3 Hz, 3H), 1.32-1.44 (m, 2H), 1.68-1.79 (m, 2H), 3.96 (t, <i>J</i> = 7.6 Hz, 2H), 6.14 (t, <i>J</i> = 7.0 Hz, 1H), 7.06-7.27 (m, 5H), 7.39 (dd, <i>J</i> = 1.8, 7.0 Hz, 1H).

表 108

化合物 No.	構造	¹ H-NMR (CDCl ₃)
7-010		(in CDCl ₃ + CD ₃ OD): 2.17 (quint, <i>J</i> =6.3 Hz, 2H), 2.63 (t, <i>J</i> =6.3 Hz, 2H), 3.09 (t, <i>J</i> =6.3 Hz, 2H), 8.34 (s, 1H).

表 109

化合物 No.	構造	¹ H-NMR (CDCl ₃)
7-011		0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.38 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.76 (quint, <i>J</i> = 7.5 Hz, 2H), 2.15 (quint, <i>J</i> = 6.3 Hz, 2H), 2.61 (t, <i>J</i> = 6.3 Hz, 2H), 3.06 (t, <i>J</i> = 6.3 Hz, 2H), 4.03 (t, <i>J</i> = 7.5 Hz, 2H), 8.39 (s, 1H).
7-012		0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.37 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.67-1.86 (m, 6H), 2.54 (t, <i>J</i> = 6.3 Hz, 2H), 2.87 (t, <i>J</i> = 6.3 Hz, 2H), 3.93 (t, <i>J</i> = 7.5 Hz, 2H), 7.22 (s, 1H).
7-013		0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.38 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.76 (quint, <i>J</i> = 7.5 Hz, 2H), 2.15 (quint, <i>J</i> = 6.0 Hz, 2H), 2.61 (t, <i>J</i> = 6.0 Hz, 2H), 3.06 (t, <i>J</i> = 6.0 Hz, 2H), 3.45-3.58 (m, 1H), 4.03 (t, <i>J</i> = 7.5 Hz, 2H), 8.39 (s, 1H).
7-014		0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.41 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.75-1.90 (m, 6H), 2.60 (t, <i>J</i> = 6.3 Hz, 2H), 2.87 (t, <i>J</i> = 6.3 Hz, 2H), 4.81 (t, <i>J</i> = 7.5 Hz, 2H), 7.50 (s, 1H).
7-015		0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.44 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.74 (quint, <i>J</i> = 3.3 Hz, 4H), 1.87 (quint, <i>J</i> = 7.5 Hz, 2H), 2.62 (br t, <i>J</i> = 6.3 Hz, 2H), 2.95 (br t, <i>J</i> = 6.3 Hz, 2H), 4.51 (t, <i>J</i> = 7.5 Hz, 2H), 7.53 (s, 1H), 10.60 (s, 1H).
7-016		0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.43 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.71-1.95 (m, 6H), 2.66 (br t, <i>J</i> = 6.3 Hz, 2H), 2.83 (t, <i>J</i> = 6.3 Hz, 2H), 4.58 (br t, <i>J</i> = 7.2 Hz, 2H), 4.79 (s, 2H), 7.61 (s, 1H).
7-017		0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.43 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.70-1.95 (m, 6H), 2.62 (t, <i>J</i> = 6.3 Hz, 2H), 3.01 (t, <i>J</i> = 6.3 Hz, 2H), 4.58 (t, <i>J</i> = 7.5 Hz, 2H), 5.05 (s, 2H), 7.15-7.30 (m, 2H), 7.42 (dd, <i>J</i> = 7.2 Hz, <i>J</i> = 1.8 Hz, 1H), 7.48 (br s, 1H), 7.60 (dd, <i>J</i> = 7.2 Hz, <i>J</i> = 1.8 Hz, 1H).
7-018		0.93 (t, <i>J</i> = 7.5 Hz, 3H), 1.32 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.42-1.59 (m, 5H), 1.88 (s, 1H), 1.97-2.08 (m, 2H), 2.20-2.32 (m, 1H), 2.54-2.66 (m, 1H), 3.06-3.19 (m, 2H), 3.33-3.43 (m, 3H).
7-019		0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.43 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.65 (quint, <i>J</i> = 7.5 Hz, 2H), 1.71 (quint, <i>J</i> = 6.0 Hz, 2H), 1.85 (quint, <i>J</i> = 6.0 Hz, 2H), 2.52 (t, <i>J</i> = 6.0 Hz, 2H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 4.00 (t, <i>J</i> = 7.8 Hz, 2H), 4.53 (s, 2H), 7.02 (s, 1H).

表 110

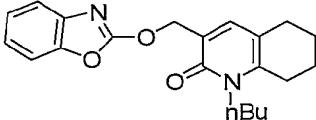
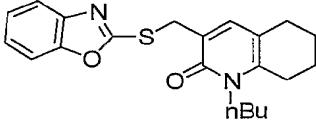
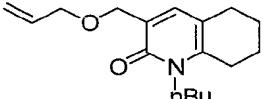
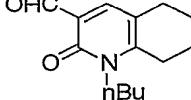
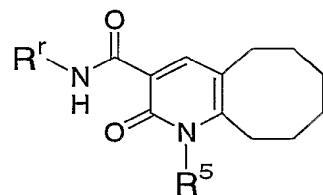
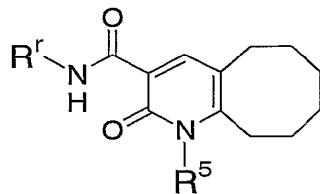
化合物 No.	構造	¹ H-NMR (CDCl ₃)
7-020		0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.43 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.57-1.72 (m, 4H), 1.81 (quint, <i>J</i> = 6.0 Hz, 2H), 2.45 (t, <i>J</i> = 6.0 Hz, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 4.01 (t, <i>J</i> = 7.8 Hz, 2H), 4.93 (s, 2H), 7.08-7.30 (m, 4H), 7.13 (s, 1H).
7-021		0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.43 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.59-1.73 (m, 4H), 1.81 (quint, <i>J</i> = 6.0 Hz, 2H), 2.49 (t, <i>J</i> = 6.0 Hz, 2H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 4.01 (t, <i>J</i> = 7.8 Hz, 2H), 4.43 (s, 2H), 7.24 (quint d, <i>J</i> = 7.5 Hz, 1.5 Hz, 2H), 7.40 (s, 1H), 7.42 (dd, <i>J</i> = 7.5 Hz, 1.5 Hz, 1H), 7.60 (dd, <i>J</i> = 7.5 Hz, 1.5 Hz, 1H).
7-022		0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.42 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.64 (quint, <i>J</i> = 7.5 Hz, 2H), 1.70 (quint, <i>J</i> = 6.0 Hz, 2H), 1.84 (quint, <i>J</i> = 6.0 Hz, 2H), 2.53 (t, <i>J</i> = 6.0 Hz, 2H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 3.99 (t, <i>J</i> = 7.8 Hz, 2H), 4.12 (dt, <i>J</i> = 6.0 Hz, 1.5 Hz, 2H), 4.46 (s, 2H), 5.20 (dq, <i>J</i> = 10.5 Hz, 1.8 Hz, 1H), 5.33 (dq, <i>J</i> = 17.1 Hz, 1.8 Hz, 1H), 5.91-6.05 (m, 1H), 7.19 (s, 1H).
7-023		0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.68 (quint, <i>J</i> = 7.5 Hz, 2H), 1.74 (quint, <i>J</i> = 6.0 Hz, 2H), 1.88 (quint, <i>J</i> = 6.0 Hz, 2H), 2.59 (t, <i>J</i> = 6.0 Hz, 2H), 2.76 (t, <i>J</i> = 6.0 Hz, 2H), 4.05 (t, <i>J</i> = 7.8 Hz, 2H), 7.76 (s, 1H), 10.34 (s, 1H).

表 1 1 1



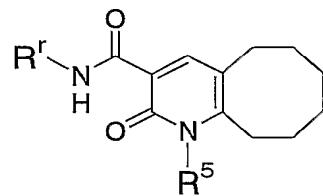
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-001		nBu	0.99 (d, <i>J</i> = 7.3 Hz, 3H), 1.22-1.53 (m, 6H), 1.62-1.86 (m, 6H), 2.36-2.42 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.3 Hz, 2H), 3.48 (dt, <i>J</i> = 7.2, 6.9 Hz, 2H), 3.72 (t, <i>J</i> = 4.8 Hz, 4H), 4.05-4.14 (m, 2H), 8.29 (s, 1H), 10.1 (t, <i>J</i> = 5.4 Hz, 1H).
10-002		nBu	0.98 (d, <i>J</i> = 7.3 Hz, 3H), 1.34-1.54 (m, 6H), 1.62-1.83 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.4 Hz, 2H), 4.05-4.20 (m, 2H), 4.80 (d, <i>J</i> = 5.5 Hz, 2H), 7.16 (m, 1H), 7.35 (d, <i>J</i> = 7.8 Hz, 1H), 7.64 (ddd, <i>J</i> = 7.8, 7.8, 1.8 Hz, 1H), 8.34 (s, 1H), 8.59 (dlike, 1H), 10.6 (t, <i>J</i> = 5.5 Hz, 1H).
10-003		nBu	0.99 (d, <i>J</i> = 7.3 Hz, 3H), 1.34-1.53 (m, 6H), 1.60-1.90 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.3 Hz, 2H), 2.94 (t, <i>J</i> = 7.5 Hz, 2H), 3.70 (dt, <i>J</i> = 7.5, 6.0 Hz, 2H), 4.03-4.14 (m, 2H), 7.18-7.20 (m, 2H), 8.29 (s, 1H), 8.50-8.52 (m, 2H), 10.1 (t, <i>J</i> = 6.0 Hz, 1H).
10-004		nBu	0.99 (d, <i>J</i> = 7.2 Hz, 3H), 1.34-1.54 (m, 6H), 1.62-1.85 (m, 6H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.3 Hz, 2H), 4.12 (t, <i>J</i> = 7.3 Hz, 2H), 4.65 (d, <i>J</i> = 5.8 Hz, 2H), 7.28 (A2B2, <i>J</i> = 5.0 Hz, 2H), 8.53 (s, 1H), 8.54 (A2B2, <i>J</i> = 5.0 Hz, 2H), 10.5 (t, <i>J</i> = 5.8 Hz, 1H).
10-005		nBu	0.99 (d, <i>J</i> = 7.3 Hz, 3H), 1.34-1.54 (m, 6H), 1.60-1.82 (m, 6H), 2.64 (t, <i>J</i> = 6.1 Hz, 2H), 2.89 (t, <i>J</i> = 6.4 Hz, 2H), 2.94 (t, <i>J</i> = 7.5 Hz, 2H), 3.68 (dt, <i>J</i> = 7.5, 6.3 Hz, 2H), 4.04-4.14 (m, 2H), 7.23 (dd, <i>J</i> = 7.8, 4.6 Hz, 1H), 7.59 (ddd, <i>J</i> = 7.8, 2.1, 1.5 Hz, 1H), 8.29 (s, 1H), 8.47 (dd, <i>J</i> = 7.8, 1.5 Hz, 1H), 8.50 (d, <i>J</i> = 2.1 Hz, 1H), 10.1 (t, <i>J</i> = 6.3 Hz, 1H).
10-006		nBu	0.98 (d, <i>J</i> = 7.3 Hz, 3H), 1.34-1.53 (m, 6H), 1.41 (s, 6H), 1.61-1.80 (m, 6H), 2.63 (t, <i>J</i> = 6.1 Hz, 2H), 2.88 (t, <i>J</i> = 6.4 Hz, 2H), 3.16 (s, 2H), 4.06 (br.s, 2H), 6.88-6.94 (m, 2H), 7.11-7.16 (m, 2H), 8.32 (s, 1H), 9.83 (br.s, 1H).

表 1 1 2



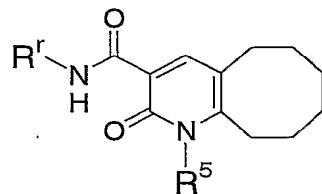
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-007		nBu	0.98 (d, <i>J</i> = 7.2 Hz, 3H), 1.38-1.49 (m, 6H), 1.51-1.80 (m, 6H), 2.64 (t, <i>J</i> = 6.4 Hz, 2H), 2.89 (t, <i>J</i> = 6.4 Hz, 2H), 4.10 (br.s, 2H), 4.73 (d, <i>J</i> = 5.8 Hz, 2H), 7.16-7.25 (m, 4H), 7.35 (m, 1H), 7.46 (m, 1H), 8.32 (s, 1H), 10.4 (br.s, 1H).
10-008		nBu	0.98 (d, <i>J</i> = 7.3 Hz, 3H), 1.37-1.48 (m, 6H), 1.51-1.79 (m, 6H), 2.63 (t, <i>J</i> = 6.4 Hz, 2H), 2.87 (t, <i>J</i> = 6.4 Hz, 2H), 3.88 (s, 3H), 4.09 (m, 2H), 4.65 (d, <i>J</i> = 5.8 Hz, 2H), 6.85-6.93 (m, 2H), 7.22 (dt, <i>J</i> = 7.6, 1.8 Hz, 1H), 7.35 (dd, <i>J</i> = 7.6, 1.8 Hz, 1H), 8.32 (s, 1H), 10.3 (br.s, 1H).
10-009		nBu	0.97 (d, <i>J</i> = 7.3 Hz, 3H), 1.38-1.50 (m, 6H), 1.60-1.80 (m, 6H), 2.38 (s, 3H), 2.64 (t, <i>J</i> = 6.1 Hz, 2H), 2.88 (t, <i>J</i> = 6.4 Hz, 2H), 4.08 (m, 2H), 4.63 (d, <i>J</i> = 5.5 Hz, 2H), 7.15-7.20 (m, 3H), 7.33 (m, 1H), 8.33 (s, 1H), 10.2 (br.s, 1H).
10-010		nBu	0.97 (d, <i>J</i> = 7.3 Hz, 3H), 1.36-1.50 (m, 6H), 1.61-1.78 (m, 6H), 2.64 (t, <i>J</i> = 6.1 Hz, 2H), 2.87 (t, <i>J</i> = 6.7 Hz, 2H), 4.08 (br.s, 2H), 4.72 (d, <i>J</i> = 5.5 Hz, 2H), 6.84-6.92 (m, 2H), 7.20 (m, 1H), 8.32 (s, 1H), 10.2 (br.s, 1H).
10-011		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.34-1.54 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.65-1.81 (m, 6H), 2.63 (t, <i>J</i> = 6.3 Hz, 2H), 2.89 (t, <i>J</i> = 6.3 Hz, 2H), 3.71 (d, <i>J</i> = 6.3 Hz, 2H), 4.11 (br t, <i>J</i> = 7.2 Hz, 2H), 5.43 (dt, <i>J</i> = 8.1 Hz, 6.0 Hz, 1H), 7.26-7.70 (m, 5H), 8.23 (s, 1H), 10.74 (d, <i>J</i> = 8.1 Hz, 1H).
10-012		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.34-1.56 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.61-1.80 (m, 6H), 2.06 (s, 3H), 2.63 (t, <i>J</i> = 6.3 Hz, 2H), 2.89 (t, <i>J</i> = 6.3 Hz, 2H), 3.15 (d, <i>J</i> = 6.0 Hz, 2H), 4.12 (br t, <i>J</i> = 7.2 Hz, 2H), 5.25 (dt, <i>J</i> = 7.8 Hz, 6.0 Hz, 1H), 7.35-7.42 (m, 5H), 8.28 (s, 1H), 10.67 (d, <i>J</i> = 8.4 Hz, 1H).

表 1 1 3



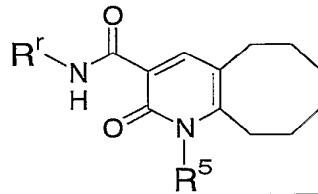
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-013		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.34-1.55 (m, 4H), 1.47 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.62-1.80 (m, 6H), 2.01 (s, 3H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.78-3.06 (m, 4H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.10 (br t, <i>J</i> = 7.5 Hz, 2H), 4.35-4.45 (m, 1H), 7.18-7.30 (m, 5H), 8.24 (s, 1H), 10.25 (d, <i>J</i> = 7.8 Hz, 1H).
10-014		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.55 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63-1.79 (m, 6H), 1.97 (s, 3H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.70-3.81 (m, 2H), 4.09 (br t, <i>J</i> = 7.5 Hz, 2H), 5.81-5.39 (m, 1H), 6.61 (br t, <i>J</i> = 4.5 Hz, 1H), 7.28-7.44 (m, 5H), 8.28 (s, 1H), 10.66 (d, <i>J</i> = 7.5 Hz, 1H).
10-015		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.57 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.62-1.80 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (s, 3H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.60 (d, <i>J</i> = 6.6 Hz, 2H), 4.10 (br t, <i>J</i> = 7.2 Hz, 2H), 5.88 (dt, <i>J</i> = 7.5 Hz, 6.0 Hz, 1H), 7.35-7.43 (m, 5H), 8.29 (s, 1H), 10.75 (d, <i>J</i> = 9.0 Hz, 1H).
10-016		nBu	0.99 (d, <i>J</i> = 7.3 Hz, 3H), 1.34-1.54 (m, 6H), 1.62-1.82 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.3 Hz, 2H), 4.06-4.17 (m, 2H), 4.68 (d, <i>J</i> = 6.4 Hz, 2H), 7.16 (dd, <i>J</i> = 8.5, 2.4 Hz, 1H), 7.28 (d, <i>J</i> = 8.5 Hz, 1H), 7.41 (d, <i>J</i> = 2.4 Hz, 1H), 8.32 (s, 1H), 10.5 (t, <i>J</i> = 6.4 Hz, 1H).
10-017		nBu	1.01 (t, <i>J</i> = 7.3 Hz, 3H), 1.35-1.57 (m, 6H), 1.65-1.85 (m, 6H), 2.69 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.2 Hz, 2H), 4.08-4.20 (m, 2H), 6.33 (s, 1H), 6.48 (dd, <i>J</i> = 3.4, 1.8 Hz, 1H), 6.68 (d, <i>J</i> = 3.4 Hz, 1H), 7.46 (m, 1H), 8.35 (s, 1H), 12.8 (s, 1H).

表 1 1 4



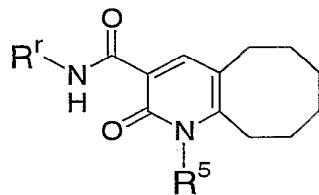
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-018		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.57 (m, 4H), 1.47 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.80 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 7.5 Hz, 2H), 3.23-3.33 (m, 1H), 3.45-3.55 (m, 1H), 4.09 (br t, <i>J</i> = 7.5 Hz, 2H), 4.40-4.50 (m, 1H), 4.53 (d, <i>J</i> = 6.0 Hz, 2H), 5.14-5.30 (m, 2H), 5.52 (br s, 1H), 5.82-5.96 (m, 1H), 7.17-7.28 (m, 5H), 8.25 (s, 1H), 10.18 (d, <i>J</i> = 7.5 Hz, 1H).
10-019		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.40 (s, 9H), 1.41-1.55 (m, 4H), 1.47 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.64-1.80 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 2.88-3.00 (m, 2H), 3.18-3.28 (m, 1H), 3.38-3.48 (m, 1H), 4.09 (br t, <i>J</i> = 7.5 Hz, 2H), 4.37-4.47 (m, 1H), 5.11 (br s, 1H), 7.22-7.32 (m, 5H), 8.25 (s, 1H), 10.13 (d, <i>J</i> = 7.8 Hz, 1H).
10-020		nBu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.81 (m, 12H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.74-3.04 (m, 6H), 3.21-3.37 (m, 2H), 4.09 (br t, <i>J</i> = 7.2 Hz, 2H), 4.44-4.53 (m, 1H), 5.06-5.17 (m, 2H), 5.08-5.95 (m, 1H), 7.18-7.29 (m, 5H), 8.25 (s, 1H), 10.17 (br s, 1H).
10-021		nBu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.52 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.61-1.79 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 2.95-3.11 (m, 2H), 3.49-3.59 (m, 1H), 3.68-3.76 (m, 1H), 4.10 (br t, <i>J</i> = 7.2 Hz, 2H), 4.51-4.64 (m, 1H), 7.17-7.85 (m, 10H), 7.92 (br s, 1H), 8.27 (s, 1H), 10.45 (d, <i>J</i> = 7.5 Hz, 1H).
10-022		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.57 (m, 4H), 1.48 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.60-1.80 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.96-3.12 (m, 2H), 3.46-3.56 (m, 1H), 3.70-3.79 (m, 1H), 4.11 (br t, <i>J</i> = 7.5 Hz, 2H), 4.51-4.63 (m, 1H), 7.17-7.39 (m, 6H), 8.17 (d, <i>J</i> = 8.1 Hz, 1H), 8.28 (s, 1H), 8.37 (br s, 1H), 8.69 (d, <i>J</i> = 3.9 Hz, 1H), 9.07 (br s, 1H), 10.52 (d, <i>J</i> = 7.2 Hz, 1H).

表 1 1 5



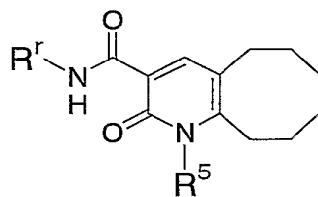
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-023		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.39-1.59 (m, 4H), 1.50 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63-1.85 (m, 6H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.17 (br t, <i>J</i> = 7.5 Hz, 2H), 7.46-7.61 (m, 3H), 8.11 (d, <i>J</i> = 7.2 Hz, 2H), 8.42 (s, 1H), 13.76 (br s, 1H).
10-024	H-	nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.56 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.63-1.81 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 4.11 (t, <i>J</i> = 7.2 Hz, 2H), 5.69 (br s, 1H), 8.30 (s, 1H), 9.63 (br s, 1H).
10-025		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.84 (m, 12H), 2.69 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.13 (br t, <i>J</i> = 7.5 Hz, 2H), 7.50-7.53 (m, 8H), 8.00-8.08 (m, 2H), 8.37 (s, 1H), 13.04 (br s, 1H).
10-026		nBu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.57 (m, 4H), 1.48 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.63-1.87 (m, 6H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.2 Hz, 2H), 7.40-7.56 (m, 3H), 7.95 (d, <i>J</i> = 7.2 Hz, 2H), 8.42 (s, 1H), 14.37 (br s, 1H).
10-027		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.56 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.63-1.82 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 4.11 (br t, <i>J</i> = 7.2 Hz, 2H), 6.12 (br s, 1H), 7.39-7.51 (m, 3H), 7.75-7.79 (m, 2H), 8.12 (s, 1H).
10-028		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.58 (m, 4H), 1.48 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.60-1.82 (m, 6H), 2.60 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 4.06 (s, 3H), 4.17 (br t, <i>J</i> = 7.5 Hz, 2H), 7.36-7.56 (m, 3H), 7.52-7.57 (m, 2H), 8.23 (s, 1H), 12.43 (br s, 1H).
10-029		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.55 (m, 4H), 1.40 (t, <i>J</i> = 6.9 Hz, 3H), 1.48 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.60-1.83 (m, 6H), 2.60 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 4.17 (br t, <i>J</i> = 7.5 Hz, 2H), 4.30 (q, <i>J</i> = 6.9 Hz, 2H), 7.32-7.40 (m, 3H), 7.51-7.61 (m, 2H), 8.23 (s, 1H), 12.44 (br s, 1H).

表 116



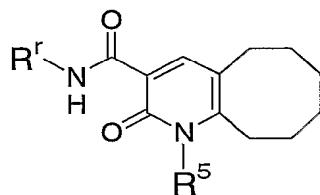
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-030			1.37-1.53 (m, 4H), 1.56 (d, <i>J</i> = 7.2 Hz, 3H), 1.61-1.79 (m, 4H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.72 (t, <i>J</i> = 6.3 Hz, 2H), 5.30 (quint, <i>J</i> = 6.9 Hz, 1H), 5.42 (br s, 2H), 6.98 (d, <i>J</i> = 5.1 Hz, 2H), 7.25-7.41 (m, 5H), 8.43 (s, 1H), 8.58 (br s, 2H), 10.11 (d, <i>J</i> = 7.8 Hz, 1H).
10-031			1.37-1.80 (m, 8H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.74 (t, <i>J</i> = 6.0 Hz, 2H), 3.07 (br t, <i>J</i> = 6.0 Hz, 1H), 3.94 (t, <i>J</i> = 6.0 Hz, 2H), 5.30 (q, <i>J</i> = 6.9 Hz, 1H), 5.45 (br s, 2H), 6.99 (d, <i>J</i> = 5.4 Hz, 2H), 7.29-7.42 (m, 5H), 8.44 (s, 1H), 8.57 (d, <i>J</i> = 5.4 Hz, 2H), 10.50 (d, <i>J</i> = 7.5 Hz, 1H).
10-032		nBu	0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.58 (m, 6H), 1.60-1.80 (m, 6H), 1.92-2.05 (m, 1H), 2.62-2.73 (m, 1H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.84-2.95 (m, 1H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.99-3.09 (m, 1H), 3.95-4.16 (m, 2H), 5.68 (q, <i>J</i> = 7.5 Hz, 1H), 7.15-7.29 (m, 3H), 7.36-7.40 (m, 1H), 8.37 (s, 1H), 10.25 (d, <i>J</i> = 8.4 Hz, 1H).
10-033		nBu	0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.56 (m, 6H), 1.59-1.79 (m, 6H), 1.91-2.04 (m, 1H), 2.62-2.72 (m, 1H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.84-2.95 (m, 1H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.99-3.09 (m, 1H), 3.98-4.18 (m, 2H), 5.68 (q, <i>J</i> = 7.5 Hz, 1H), 7.15-7.26 (m, 3H), 7.36-7.40 (m, 1H), 8.37 (s, 1H), 10.25 (d, <i>J</i> = 8.1 Hz, 1H).
10-034		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.56 (m, 4H), 1.48 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63-1.83 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.29 (s, 3H), 4.13 (t, <i>J</i> = 7.5 Hz, 2H), 6.82 (t, <i>J</i> = 7.5 Hz, 1H), 6.90 (d, <i>J</i> = 8.7 Hz, 2H), 7.22-7.27 (m, 2H), 8.34 (s, 1H), 11.48 (br s, 1H).
10-035		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.20-1.53 (m, 12H), 1.59-1.80 (m, 8H), 1.95-2.01 (m, 2H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.91-4.02 (m, 1H), 4.09 (br t, <i>J</i> = 7.2 Hz, 2H), 8.30 (s, 1H), 9.88 (d, <i>J</i> = 7.5 Hz, 1H).
10-036		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.13-1.30 (m, 2H), 1.36-1.83 (m, 21H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.28 (t, <i>J</i> = 6.0 Hz, 2H), 4.10 (br t, <i>J</i> = 7.5 Hz, 2H), 8.31 (s, 1H), 9.98 (br s, 1H).

表 1 1 7



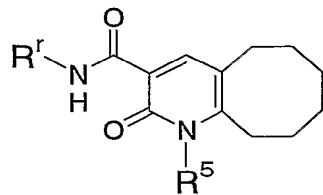
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-037	Me	nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.53 (m, 6H), 1.62-1.81 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.98 (d, <i>J</i> = 3.6 Hz, 3H), 4.10 (br t, <i>J</i> = 7.2 Hz, 2H), 8.31 (s, 1H), 9.85 (br s, 1H).
10-038	Et	nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.24 (t, <i>J</i> = 7.2 Hz, 3H), 1.34-1.54 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.63-1.80 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.42-3.51 (m, 2H), 4.10 (br t, <i>J</i> = 7.2 Hz, 2H), 8.31 (s, 1H), 9.90 (br s, 1H).
10-039	iPr	nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.26 (d, <i>J</i> = 6.9 Hz, 6H), 1.34-1.52 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.60-1.80 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.09 (br t, <i>J</i> = 7.2 Hz, 2H), 4.25 (sextet, <i>J</i> = 6.6 Hz, 1H), 8.31 (s, 1H), 9.82 (br s, 1H).
10-040	tBu	nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.56 (m, 6H), 1.47 (s, 9H), 1.61-1.79 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.09 (br t, <i>J</i> = 7.5 Hz, 2H), 8.30 (s, 1H), 9.92 (br s, 1H).
10-041		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.01 (s, 9H), 1.36-1.57 (m, 6H), 1.62-1.80 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.27 (t, <i>J</i> = 6.0 Hz, 2H), 4.12 (br t, <i>J</i> = 7.5 Hz, 2H), 8.32 (s, 1H), 10.10 (br s, 1H).
10-042		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.54 (m, 6H), 1.62-1.83 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.14 (br t, <i>J</i> = 7.5 Hz, 2H), 7.15-7.30 (m, 2H), 7.47-7.56 (m, 1H), 7.96 (td, <i>J</i> = 7.8 Hz, 1.5 Hz, 1H), 8.38 (s, 1H), 13.37 (br s, 1H).
10-043		nBu	1.02 (t, <i>J</i> = 7.2 Hz, 3H), 1.40-1.58 (m, 6H), 1.67-1.85 (m, 6H), 2.69 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.18 (br t, <i>J</i> = 7.2 Hz, 2H), 7.25-7.32 (m, 1H), 7.47-7.55 (m, 1H), 7.80 (dt, <i>J</i> = 9.6 Hz, 2.4 Hz, 1H), 7.89 (t, <i>J</i> = 7.8 Hz, 1H), 8.41 (s, 1H), 13.84 (br s, 1H).
10-044		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.39-1.62 (m, 6H), 1.65-1.89 (m, 6H), 2.69 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.17 (br t, <i>J</i> = 7.5 Hz, 2H), 7.20 (t, <i>J</i> = 9.0 Hz, 2H), 8.11-8.16 (m, 2H), 8.42 (s, 1H), 13.79 (br s, 1H).

表 118



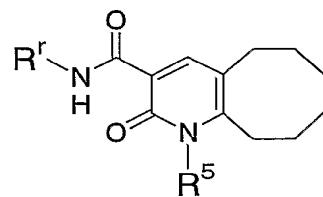
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-045		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.54 (m, 6H), 1.62-1.83 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 4.12 (br t, <i>J</i> = 7.5 Hz, 2H), 6.96 (t, <i>J</i> = 7.8 Hz, 2H), 7.84-7.44 (m, 1H), 8.29 (s, 1H), 13.18 (br s, 1H).
10-046		nBu	1.02 (t, <i>J</i> = 7.2 Hz, 3H), 1.39-1.56 (m, 6H), 1.67-1.85 (m, 6H), 2.69 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.17 (br t, <i>J</i> = 7.2 Hz, 2H), 7.82 (dt, <i>J</i> = 9.0 Hz, 1.2 Hz, 1H), 7.86-8.01 (m, 2H), 8.41 (s, 1H), 13.88 (br s, 1H).
10-047		nBu	1.02 (t, <i>J</i> = 7.2 Hz, 3H), 1.42-1.57 (m, 6H), 1.63-1.82 (m, 6H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.95 (t, <i>J</i> = 6.0 Hz, 2H), 4.15 (br t, <i>J</i> = 7.2 Hz, 2H), 8.25 (s, 1H), 13.37 (br s, 1H).
10-048		nBu	1.03 (t, <i>J</i> = 7.5 Hz, 3H), 1.40-1.55 (m, 6H), 1.68-1.87 (m, 6H), 2.70 (t, <i>J</i> = 6.0 Hz, 2H), 2.96 (t, <i>J</i> = 6.0 Hz, 2H), 4.20 (br t, <i>J</i> = 7.5 Hz, 2H), 8.08 (s, 1H), 8.41 (s, 1H), 8.57 (s, 2H), 14.30 (br s, 1H).
10-049		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.01-1.34 (m, 6H), 1.18 (d, <i>J</i> = 6.9 Hz, 3H), 1.37-1.57 (m, 8H), 1.62-1.88 (m, 9H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.99-4.10 (m, 2H), 4.05-4.21 (m, 1H), 8.30 (s, 1H), 9.88 (d, <i>J</i> = 9.0 Hz, 1H).
10-050		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.01-1.32 (m, 6H), 1.18 (d, <i>J</i> = 6.6 Hz, 3H), 1.34-1.52 (m, 8H), 1.62-1.86 (m, 9H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.01-4.11 (m, 2H), 4.05-4.22 (m, 1H), 8.30 (s, 1H), 9.88 (d, <i>J</i> = 8.4 Hz, 1H).
10-051		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.55 (m, 4H), 1.48 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.65-1.82 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.2 Hz, 2H), 4.97 (d, <i>J</i> = 4.2 Hz, 2H), 7.47-7.63 (m, 3H), 8.02-8.06 (m, 2H), 8.81 (s, 1H), 10.81 (br s, 1H).
10-052		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.28-1.55 (m, 12H), 1.59-1.80 (m, 10H), 1.99 (br s, 1H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.47 (d, <i>J</i> = 6.3 Hz, 2H), 4.11 (br t, <i>J</i> = 7.5 Hz, 2H), 8.30 (s, 1H), 10.27 (br s, 1H).

表 119



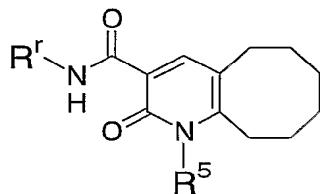
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-053		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.80 (m, 14H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 2.00 (br s, 4H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.94 (d, <i>J</i> = 6.0 Hz, 2H), 4.10 (br t, <i>J</i> = 7.5 Hz, 2H), 5.63 (br s, 1H), 8.31 (s, 1H), 9.97 (br s, 1H).
10-054		nBu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.35-1.79 (m, 10H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.79 (d, <i>J</i> = 6.0 Hz, 2H), 4.13 (br t, <i>J</i> = 7.2 Hz, 2H), 5.52-5.59 (m, 1H), 7.26-7.45 (m, 5H), 8.32 (br s, 1H), 10.80 (br s, 1H).
10-055		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.79 (m, 10H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.03 (dd, <i>J</i> = 6.0 Hz, 2.4 Hz, 2H), 4.10 (br t, <i>J</i> = 7.5 Hz, 2H), 5.47 (q, <i>J</i> = 6.6 Hz, 1H), 7.31-7.50 (m, 5H), 8.28 (s, 1H), 10.82 (d, <i>J</i> = 7.5 Hz, 1H).
10-056		nBu	0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.79 (m, 12H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.04, 3.21 (ABx, <i>J</i> = 16.2 Hz, 3.0 Hz, 2H), 4.07 (br t, <i>J</i> = 7.5 Hz, 2H), 4.74-4.80 (m, 1H), 5.56 (dd, <i>J</i> = 7.2 Hz, 5.1 Hz, 1H), 7.20-7.30 (m, 3H), 7.34-7.39 (m, 1H), 8.35 (s, 1H), 10.43 (d, <i>J</i> = 7.2 Hz, 1H).
10-057		nBu	0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.81 (m, 12H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.04, 3.21 (ABx, <i>J</i> = 16.2 Hz, 3.0 Hz, 2H), 4.07 (br t, <i>J</i> = 7.5 Hz, 2H), 4.77 (sextet, <i>J</i> = 3.0 Hz, 1H), 5.56 (dd, <i>J</i> = 7.2 Hz, 5.1 Hz, 1H), 7.28-7.32 (m, 3H), 7.35-7.39 (m, 1H), 8.35 (s, 1H), 10.44 (d, <i>J</i> = 7.5 Hz, 1H).
10-058		nBu	0.96 (t, <i>J</i> = 7.5 Hz, 3H), 0.99 (t, <i>J</i> = 7.5 Hz, 8H), 1.35-1.53 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.64-1.79 (m, 6H), 1.85-1.98 (m, 2H), 2.61 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.11 (br t, <i>J</i> = 7.5 Hz, 2H), 5.08 (q, <i>J</i> = 7.5 Hz, 1H), 7.18-7.40 (m, 5H), 8.27 (s, 1H), 10.40 (d, <i>J</i> = 7.8 Hz, 1H).

表 120



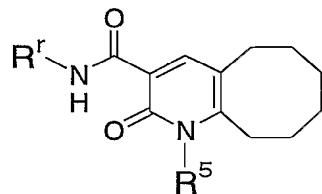
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-059		nBu	0.96 (t, <i>J</i> = 7.5 Hz, 3H), 0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.52 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.79 (m, 6H), 1.84-1.98 (m, 2H), 2.61 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.10 (br t, <i>J</i> = 7.5 Hz, 2H), 5.08 (q, <i>J</i> = 7.5 Hz, 1H), 7.18-7.40 (m, 5H), 8.27 (s, 1H), 10.40 (d, <i>J</i> = 7.8 Hz, 1H).
10-060		nBu	0.96 (t, <i>J</i> = 7.2 Hz, 3H), 1.35-1.56 (m, 4H), 1.42 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.59-1.80 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.04 (s, 3H), 3.28-3.43 (m, 2H), 3.97-4.09 (m, 2H), 5.58 (td, <i>J</i> = 4.5 Hz, 1.5 Hz, 1H), 5.90 (dd, <i>J</i> = 7.5 Hz, 4.5 Hz, 1H), 7.18-7.35 (m, 4H), 8.35 (s, 1H), 10.64 (d, <i>J</i> = 8.4 Hz, 1H).
10-061		nBu	0.96 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.56 (m, 4H), 1.42 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.81 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.04 (s, 3H), 3.28-3.44 (m, 2H), 3.92-4.09 (m, 2H), 5.58 (td, <i>J</i> = 4.5 Hz, 1.5 Hz, 1H), 5.90 (dd, <i>J</i> = 7.5 Hz, 4.5 Hz, 1H), 7.20-7.35 (m, 4H), 8.35 (s, 1H), 10.64 (d, <i>J</i> = 8.4 Hz, 1H).
10-062		nBu	0.97 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.54 (m, 6H), 1.61-1.80 (m, 6H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 2.95, 3.34 (AB _x , <i>J</i> = 7.8 Hz, 2H), 3.98-4.10 (m, 2H), 4.23 (q, <i>J</i> = 7.2 Hz, 1H), 5.65 (t, <i>J</i> = 7.2 Hz, 1H), 7.19-7.32 (m, 4H), 8.39 (s, 1H), 10.36 (d, <i>J</i> = 8.4 Hz, 1H).
10-063		nBu	0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.54 (m, 6H), 1.61-1.81 (m, 6H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 2.95, 3.34 (AB _x , <i>J</i> = 7.5 Hz, 2H), 3.98-4.10 (m, 2H), 4.23 (q, <i>J</i> = 7.2 Hz, 1H), 5.65 (t, <i>J</i> = 7.2 Hz, 1H), 7.19-7.32 (m, 4H), 8.39 (s, 1H), 10.36 (d, <i>J</i> = 8.4 Hz, 1H).
10-064		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.52 (m, 6H), 1.63-1.80 (m, 6H), 1.99 (br s, 1H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.36 (s, 3H), 3.45, 3.58 (AB _x , <i>J</i> = 5.4 Hz, 4.2 Hz, 2H), 4.02-4.21 (m, 2H), 4.38-4.41 (m, 1H), 5.03 (d, <i>J</i> = 5.1 Hz, 1H), 7.26-7.35 (m, 3H), 7.42-7.46 (m, 2H), 8.25 (s, 1H), 10.62 (d, <i>J</i> = 7.8 Hz, 1H).

表 1 2 1



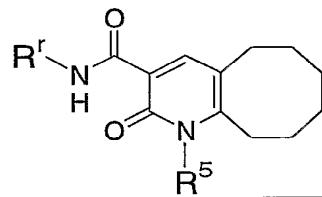
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-065		Bu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.35-1.53 (m, 6H), 1.61-1.80 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.31, 3.57 (AB _x , <i>J</i> = 5.4 Hz, 4.2 Hz, 2H), 3.34 (s, 3H), 4.12 (br t, <i>J</i> = 7.2 Hz, 2H), 4.76-4.85 (m, 1H), 5.36 (d, <i>J</i> = 5.4 Hz, 1H), 7.26-7.35 (m, 8H), 7.45-7.49 (m, 2H), 8.24 (s, 1H), 10.53 (d, <i>J</i> = 8.1 Hz, 1H).
10-066		Bu	0.95 (t, <i>J</i> = 7.5 Hz, 3H × 2), 0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.79 (m, 16H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.92-4.05 (m, 1H), 4.10 (br t, <i>J</i> = 7.2 Hz, 2H), 8.31 (s, 1H), 9.76 (d, <i>J</i> = 7.5 Hz, 1H).
10-067		Bu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.34-1.51 (m, 6H), 1.61-1.79 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.31, (s, 3H), 3.79-3.90 (m, 2H), 4.11 (br t, <i>J</i> = 7.5 Hz, 2H), 5.87-5.94 (m, 1H), 7.45-7.62 (m, 3H), 8.05-8.09 (m, 2H), 8.26 (s, 1H), 10.80 (d, <i>J</i> = 7.8 Hz, 1H).
10-068		Me-O-CH ₂ -	1.35 (quint, <i>J</i> = 6.0 Hz, 2H), 1.48 (quint, <i>J</i> = 6.0 Hz, 2H), 1.58 (d, <i>J</i> = 6.9 Hz, 3H), 1.61-1.75 (m, 4H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 3.04 (t, <i>J</i> = 6.0 Hz, 2H), 3.31 (s, 3H), 3.70 (t, <i>J</i> = 5.4 Hz, 2H), 4.26-4.42 (m, 2H), 5.31 (quint, <i>J</i> = 7.2 Hz, 1H), 7.22-7.44 (m, 5H), 8.32 (s, 1H), 10.29 (d, <i>J</i> = 7.8 Hz, 1H).
10-069		Me-O-CH ₂ -	0.98-1.54 (m, 8H), 1.18 (d, <i>J</i> = 6.6 Hz, 3H), 1.61-1.85 (m, 11H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 3.04 (t, <i>J</i> = 6.0 Hz, 2H), 3.31 (s, 3H), 3.70 (t, <i>J</i> = 6.0 Hz, 2H), 4.00-4.14 (m, 1H), 4.25-4.43 (m, 2H), 8.33 (s, 1H), 9.81 (d, <i>J</i> = 8.7 Hz, 1H).
10-070		nBu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.34-1.53 (m, 6H), 1.63-1.80 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.83 (s, 3H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.22, 3.50 (AB _x , <i>J</i> = 4.8 Hz, 2H), 3.32 (s, 3H), 4.02-4.21 (m, 2H), 4.68-4.78 (m, 1H), 5.86 (d, <i>J</i> = 6.9 Hz, 1H), 7.32-7.49 (m, 5H), 8.23 (s, 1H), 10.50 (d, <i>J</i> = 9.6 Hz, 1H).

表 1 2 2



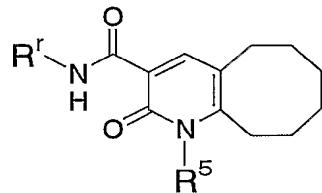
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-071		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.50 (m, 6H), 1.62-1.79 (m, 6H), 2.60 (t, <i>J</i> = 6.0 Hz, 2H), 2.86 (t, <i>J</i> = 6.0 Hz, 2H), 3.38, 3.68 (ABx, <i>J</i> = 4.8 Hz, 2H), 3.36 (s, 3H), 4.01-4.19 (m, 2H), 4.60-4.69 (m, 1H), 5.01 (d, <i>J</i> = 7.2 Hz, 1H), 7.28-7.45 (m, 5H), 8.20 (s, 1H), 10.25 (d, <i>J</i> = 7.2 Hz, 1H).
10-072		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.35-1.52 (m, 6H), 1.62-1.80 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.77, 3.87 (ABx, <i>J</i> = 6.6 Hz, 4.8 Hz, 2H), 4.11 (br t, <i>J</i> = 7.2 Hz, 2H), 4.25 (quint, <i>J</i> = 4.8 Hz, 1H), 5.07 (d, <i>J</i> = 6.0 Hz, 1H), 7.26-7.36 (m, 3H), 7.44-7.48 (m, 2H), 8.27 (s, 1H), 10.70 (d, <i>J</i> = 5.4 Hz, 1H).
10-073		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.54 (m, 6H), 1.61-1.80 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.77, 3.87 (ABx, <i>J</i> = 6.6 Hz, 4.5 Hz, 2H), 4.08-4.16 (m, 2H), 4.25 (quint, <i>J</i> = 6.0 Hz, 1H), 5.07 (d, <i>J</i> = 5.4 Hz, 1H), 7.23-7.36 (m, 3H), 7.44-7.49 (m, 2H), 8.28 (s, 1H), 10.70 (d, <i>J</i> = 6.6 Hz, 1H).
10-074		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.32-1.54 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.78 (m, 6H), 2.57 (t, <i>J</i> = 6.0 Hz, 2H), 2.86 (t, <i>J</i> = 6.0 Hz, 2H), 4.03-4.22 (m, 2H), 4.12, 5.32 (ABx, <i>J</i> = 12.0 Hz, 1.5 Hz, 2H), 4.60 (dd, <i>J</i> = 9.0 Hz, 1.5 Hz, 1H), 6.32 (d, <i>J</i> = 1.5 Hz, 1H), 7.24-7.32 (m, 3H), 7.38-7.42 (m, 2H), 8.09 (s, 1H), 10.97 (d, <i>J</i> = 8.7 Hz, 1H).
10-075		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.35-1.56 (m, 4H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.79 (m, 6H), 2.57 (t, <i>J</i> = 6.0 Hz, 2H), 2.86 (t, <i>J</i> = 6.0 Hz, 2H), 4.02-4.23 (m, 2H), 4.12, 5.32 (ABx, <i>J</i> = 9.9 Hz, 1.5 Hz, 2H), 4.56-4.63 (m, 1H), 6.32 (d, <i>J</i> = 1.8 Hz, 1H), 7.24-7.32 (m, 3H), 7.38-7.42 (m, 2H), 8.09 (s, 1H), 10.97 (d, <i>J</i> = 8.7 Hz, 1H).

表 1 2 3



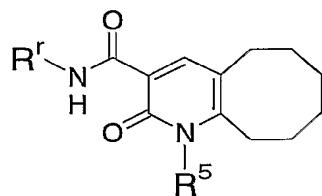
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-076		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.52 (m, 4H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63-1.79 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.55, 3.77 (ABx, <i>J</i> = 6.0 Hz, 5.1 Hz, 2H), 3.73 (br s, 1H), 4.03-4.19 (m, 2H), 4.43-4.52 (m, 1H), 5.10 (d, <i>J</i> = 6.0 Hz, 1H), 7.26-7.37 (m, 8H), 7.46-7.50 (m, 2H), 8.25 (s, 1H), 10.67 (d, <i>J</i> = 8.1 Hz, 1H).
10-077		nBu	0.05 (s, 3H), 0.06 (s, 3H), 0.93 (s, 9H), 0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.33-1.51 (m, 6H), 1.62-1.79 (m, 6H), 1.90 (br s, 1H), 2.61 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.73, 3.82 (ABx, <i>J</i> = 6.0 Hz, 4.5 Hz, 2H), 4.01-4.19 (m, 2H), 4.26 (sextet, <i>J</i> = 4.5 Hz, 1H), 5.10 (d, <i>J</i> = 5.4 Hz, 1H), 7.24-7.33 (m, 3H), 7.43-7.48 (m, 2H), 8.22 (s, 1H), 10.71 (d, <i>J</i> = 7.5 Hz, 1H).
10-078		nBu	0.05 (s, 3H), 0.06 (s, 3H), 0.93 (s, 9H), 0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.33-1.50 (m, 6H), 1.62-1.79 (m, 6H), 2.05 (br s, 1H), 2.61 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.73, 3.82 (ABx, <i>J</i> = 6.0 Hz, 4.5 Hz, 2H), 4.02-4.20 (m, 2H), 4.27 (sextet, <i>J</i> = 4.5 Hz, 1H), 5.10 (d, <i>J</i> = 4.8 Hz, 1H), 7.22-7.34 (m, 3H), 7.44-7.47 (m, 2H), 8.22 (s, 1H), 10.72 (d, <i>J</i> = 8.1 Hz, 1H).
10-079		nBu	0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.52 (m, 6H), 1.61-1.80 (m, 6H), 2.03 (s, 3H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.06, 3.40 (ABx, <i>J</i> = 9.0 Hz, 7.2 Hz, 2H), 3.74 (quint, <i>J</i> = 7.5 Hz, 1H), 3.99-4.21 (m, 2H), 5.46 (t, <i>J</i> = 6.9 Hz, 1H), 7.22-7.29 (m, 3H), 7.33-7.38 (m, 1H), 8.38 (s, 1H), 10.60 (d, <i>J</i> = 6.3 Hz, 1H).
10-080		nBu	0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.54 (m, 6H), 1.61-1.78 (m, 6H), 2.01 (s, 3H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.11, 3.41 (ABx, <i>J</i> = 9.0 Hz, 7.5 Hz, 2H), 3.76 (quint, <i>J</i> = 7.5 Hz, 1H), 3.99-4.28 (m, 2H), 5.48 (t, <i>J</i> = 6.6 Hz, 1H), 7.21-7.30 (m, 3H), 7.34-7.38 (m, 1H), 8.32 (s, 1H), 10.64 (d, <i>J</i> = 6.0 Hz, 1H).

表 1 2 4



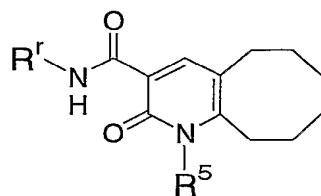
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-081		nBu	0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.57 (m, 6H), 1.62-1.81 (m, 6H), 2.02 (s, 3H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.71, 3.68 (ABx, <i>J</i> = 15.6 Hz, 7.8 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.92-4.07 (m, 1H), 4.11-4.27 (m, 2H), 5.60 (t, <i>J</i> = 9.0 Hz, 1H), 7.21-7.35 (m, 5H), 8.81 (s, 1H), 10.66 (d, <i>J</i> = 8.1 Hz, 1H).
10-082		nBu	0.97 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.58 (m, 6H), 1.66-1.82 (m, 6H), 2.02 (s, 3H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.71, 3.68 (ABx, <i>J</i> = 15.6 Hz, 7.8 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.92-4.06 (m, 1H), 4.12-4.28 (m, 2H), 5.60 (t, <i>J</i> = 9.0 Hz, 1H), 7.20-7.34 (m, 5H), 8.81 (s, 1H), 10.66 (d, <i>J</i> = 7.8 Hz, 1H).
10-083		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.17 (t, <i>J</i> = 7.5 Hz, 6H), 1.37-1.56 (m, 4H), 1.44 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63-1.80 (m, 6H), 2.43 (quint, <i>J</i> = 7.2 Hz, 1H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.70, 3.71 (ABx, <i>J</i> = 15.6 Hz, 7.8 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.98-4.06 (m, 1H), 4.13-4.21 (m, 2H), 5.60 (t, <i>J</i> = 9.0 Hz, 1H), 7.22-7.37 (m, 5H), 8.81 (s, 1H), 10.65 (d, <i>J</i> = 7.5 Hz, 1H).
10-084		nBu	0.98 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.52 (m, 6H), 1.62-1.80 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.94, 4.14 (ABx, <i>J</i> = 12.0 Hz, 6.0 Hz, 2H), 4.08-4.18 (m, 2H), 5.76-5.82 (m, 1H), 7.47-7.53 (m, 2H), 7.57-7.63 (m, 1H), 8.08-8.11 (m, 2H), 8.29 (s, 1H), 11.13 (d, <i>J</i> = 6.6 Hz, 1H).
10-085		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.56 (m, 6H), 1.61-1.80 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.94, 4.14 (ABx, <i>J</i> = 12.0 Hz, 6.0 Hz, 2H), 4.08-4.18 (m, 2H), 5.77-5.83 (m, 1H), 7.48-7.53 (m, 2H), 7.57-7.65 (m, 1H), 8.08-8.12 (m, 2H), 8.30 (s, 1H), 11.14 (d, <i>J</i> = 6.6 Hz, 1H).
10-086		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.53 (m, 6H), 1.65-1.81 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.89, 4.11 (ABx, <i>J</i> = 11.4 Hz, 5.1 Hz, 2H), 4.08-4.19 (m, 2H), 6.01-6.08 (m, 1H), 7.45-7.53 (m, 2H), 7.57-7.63 (m, 1H), 8.04-8.08 (m, 2H), 8.28 (s, 1H), 10.92 (d, <i>J</i> = 7.5 Hz, 1H).

表 125



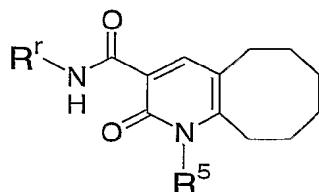
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-087		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.51 (m, 6H), 1.62-1.79 (m, 6H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.90, 4.11 (AB _x , <i>J</i> = 11.4 Hz, 5.1 Hz, 2H), 4.08-4.19 (m, 2H), 6.00-6.08 (m, 1H), 7.45-7.53 (m, 2H), 7.56-7.63 (m, 1H), 8.03-8.07 (m, 2H), 8.28 (s, 1H), 10.92 (d, <i>J</i> = 7.8 Hz, 1H).
10-088		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.54 (m, 6H), 1.64-1.80 (m, 6H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 4.17 (br t, <i>J</i> = 7.5 Hz, 2H), 5.58 (s, 1H), 7.10 (s, 1H), 7.42-7.49 (m, 2H), 7.53-7.59 (m, 1H), 7.77-7.82 (m, 2H), 8.31 (s, 1H), 12.52 (br s, 1H).
10-089		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.55 (m, 6H), 1.60-1.81 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.91 (d, <i>J</i> = 6.0 Hz, 2H), 4.12 (br t, <i>J</i> = 7.5 Hz, 2H), 5.51-5.58 (m, 1H), 7.27-7.48 (m, 5H), 8.29 (s, 1H), 10.77 (d, <i>J</i> = 8.1 Hz, 1H).
10-090		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H × 2/5), 0.99 (t, <i>J</i> = 7.5 Hz, 3H × 3/5), 1.36-1.79 (m, 12H), 2.61 (t, <i>J</i> = 6.0 Hz, 2H × 2/5), 2.62 (t, <i>J</i> = 6.0 Hz, 2H × 3/5), 2.87 (t, <i>J</i> = 6.0 Hz, 2H × 2/5), 2.88 (t, <i>J</i> = 6.0 Hz, 2H × 3/5), 3.52, 4.15 (AB _x , <i>J</i> = 11.1 Hz, 4.2 Hz, 2H), 4.10-4.20 (m, 2H), 4.83-4.91 (m, 1H × 3/5), 4.98-5.08 (m, 1H × 2/5), 5.30 (d, <i>J</i> = 5.4 Hz, 1H × 2/5), 5.44 (d, <i>J</i> = 5.4 Hz, 1H × 3/5), 7.28-7.38 (m, 8H), 7.46-7.53 (m, 2H), 8.16 (s, 1H × 2/5), 8.23 (s, 1H × 3/5), 10.46 (d, <i>J</i> = 8.4 Hz, 1H × 2/5), 10.72 (d, <i>J</i> = 8.4 Hz, 1H × 3/5).
10-091		nBu	-0.12 (s, 3H), -0.11 (s, 3H), 0.74 (s, 9H), 0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.53 (m, 6H), 1.62-1.78 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.96-4.10 (m, 2H), 4.11-4.22 (m, 2H), 5.80-5.88 (m, 1H), 7.43-7.49 (m, 2H), 7.53-7.61 (m, 1H), 8.05-8.09 (m, 2H), 8.26 (s, 1H), 10.81 (d, <i>J</i> = 7.5 Hz, 1H).

表 1 2 6



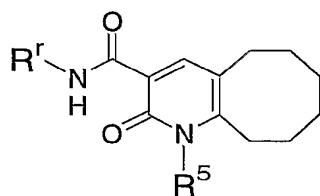
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-092		nBu	-0.12 (s, 3H), -0.11 (s, 3H), 0.74 (s, 9H), 0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.52 (m, 6H), 1.62-1.78 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.96-4.10 (m, 2H), 4.10-4.23 (m, 2H), 5.80-5.87 (m, 1H), 7.43-7.49 (m, 2H), 7.53-7.61 (m, 1H), 8.05-8.09 (m, 2H), 8.26 (s, 1H), 10.80 (d, <i>J</i> = 7.5 Hz, 1H).
10-093		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.52 (m, 6H), 1.63-1.81 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.56, 3.77 (ABx, <i>J</i> = 11.1 Hz, 5.1 Hz, 2H), 4.08-4.18 (m, 2H), 4.44-4.53 (m, 1H), 5.10 (d, <i>J</i> = 6.0 Hz, 1H), 7.25-7.37 (m, 8H), 7.46-7.49 (m, 2H), 8.28 (s, 1H), 10.69 (d, <i>J</i> = 7.8 Hz, 1H).
10-094		nBu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.52 (m, 6H), 1.63-1.80 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 4.11 (br t, <i>J</i> = 7.2 Hz, 2H), 4.34-4.42 (m, 1H), 4.48-4.57 (m, 2H), 5.03 (d, <i>J</i> = 4.8 Hz, 1H), 7.26-7.37 (m, 3H), 7.41-7.46 (m, 2H), 8.26 (s, 1H), 10.62 (d, <i>J</i> = 7.5 Hz, 1H).
10-095		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.52 (m, 6H), 1.62-1.79 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 4.11 (br t, <i>J</i> = 7.2 Hz, 2H), 4.34-4.42 (m, 1H), 4.48-4.57 (m, 2H), 5.03 (d, <i>J</i> = 4.5 Hz, 1H), 7.26-7.37 (m, 3H), 7.41-7.46 (m, 2H), 8.24 (s, 1H), 10.60 (d, <i>J</i> = 7.5 Hz, 1H).
10-096		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.51 (m, 6H), 1.64-1.78 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 4.15 (br t, <i>J</i> = 7.2 Hz, 2H), 4.93 (d, <i>J</i> = 4.5 Hz, 2H), 7.14-7.21 (m, 2H), 8.04-8.10 (m, 2H), 8.30 (s, 1H), 10.79 (br s, 1H).
10-097		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.50 (m, 6H), 1.62-1.78 (m, 6H), 2.59 (t, <i>J</i> = 6.0 Hz, 2H), 2.86 (t, <i>J</i> = 6.0 Hz, 2H), 3.76, 4.15 (ABx, <i>J</i> = 11.7 Hz, 4.5 Hz, 2H), 4.00-4.13 (m, 2H), 4.98-5.07 (m, 1H), 5.30 (d, <i>J</i> = 8.1 Hz, 1H), 7.24-7.37 (m, 3H), 7.49-7.53 (m, 2H), 8.16 (s, 1H), 10.46 (d, <i>J</i> = 8.7 Hz, 1H).

表 1 2 7



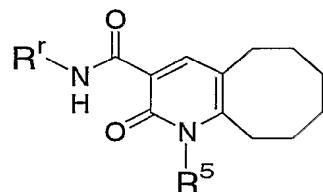
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-098		nBu	1.01 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.52 (m, 6H), 1.63-1.81 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.47, 3.65 (ABx, <i>J</i> = 11.1 Hz, 5.1 Hz, 2H), 4.08-4.19 (m, 2H), 4.83-4.92 (m, 1H), 6.28 (d, <i>J</i> = 6.6 Hz, 1H), 7.29-7.39 (m, 3H), 7.44-7.53 (m, 2H), 8.17 (s, 1H), 8.23 (s, 1H), 10.64 (d, <i>J</i> = 8.7 Hz, 1H).
10-099		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.52 (m, 6H), 1.62-1.79 (m, 6H), 2.59 (t, <i>J</i> = 6.0 Hz, 2H), 2.86 (t, <i>J</i> = 6.0 Hz, 2H), 3.76, 4.15 (ABx, <i>J</i> = 11.4 Hz, 4.5 Hz, 2H), 3.99-4.13 (m, 2H), 4.98-5.07 (m, 1H), 5.30 (d, <i>J</i> = 7.8 Hz, 1H), 7.24-7.41 (m, 3H), 7.50-7.53 (m, 2H), 8.16 (s, 1H), 10.46 (d, <i>J</i> = 8.4 Hz, 1H).
10-100		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.40-1.53 (m, 6H), 1.64-1.80 (m, 6H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.47, 3.65 (ABx, <i>J</i> = 11.1 Hz, 5.1 Hz, 2H), 4.08-4.18 (m, 2H), 4.83-4.92 (m, 1H), 6.28 (d, <i>J</i> = 6.8 Hz, 1H), 7.30-7.38 (m, 3H), 7.45-7.49 (m, 2H), 8.17 (s, 1H), 8.23 (s, 1H), 10.64 (d, <i>J</i> = 9.0 Hz, 1H).
10-101			1.21-1.52 (m, 8H), 1.59-1.79 (m, 8H), 1.94-1.99 (m, 2H), 2.09 (quint, <i>J</i> = 6.0 Hz, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 3.78 (t, <i>J</i> = 6.0 Hz, 2H), 3.93-4.03 (m, 1H), 4.05 (dd, <i>J</i> = 6.6 Hz, 2.1 Hz, 1H), 4.20 (dd, <i>J</i> = 14.1 Hz, 2.1 Hz, 1H), 4.25 (br t, <i>J</i> = 7.5 Hz, 2H), 6.49 (dd, <i>J</i> = 14.4 Hz, 6.9 Hz, 1H), 8.31 (s, 1H), 9.85 (d, <i>J</i> = 7.8 Hz, 1H).
10-102			1.30-1.54 (m, 8H), 1.60-1.78 (m, 8H), 1.87-2.00 (m, 4H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 3.53 (t, <i>J</i> = 6.0 Hz, 2H), 3.91-4.02 (m, 1H), 4.34 (br t, <i>J</i> = 7.5 Hz, 2H), 8.37 (s, 1H), 9.77 (d, <i>J</i> = 7.2 Hz, 1H).
10-103		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.39-1.55 (m, 4H), 1.49 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.68-1.83 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.18 (br t, <i>J</i> = 7.5 Hz, 2H), 7.21 (t, <i>J</i> = 7.5 Hz, 1H), 7.55 (t, <i>J</i> = 7.5 Hz, 1H), 7.64 (d, <i>J</i> = 8.1 Hz, 1H), 8.32 (d, <i>J</i> = 8.1 Hz, 1H), 8.36 (s, 1H), 12.41 (br s, 1H).

表 1 2 8



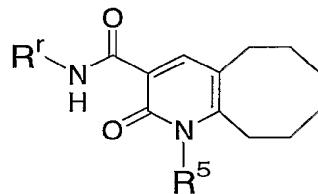
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-104		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.52 (m, 6H), 1.63-1.80 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.88 (s, 3H), 4.14 (br t, <i>J</i> = 7.2 Hz, 2H), 4.91 (d, <i>J</i> = 4.5 Hz, 2H), 6.97 (d, <i>J</i> = 8.4 Hz, 2H), 8.03 (d, <i>J</i> = 8.4 Hz, 2H), 8.30 (s, 1H), 10.80 (br s, 1H).
10-105		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.53 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.63-1.80 (m, 6H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 4.15 (br t, <i>J</i> = 7.2 Hz, 2H), 4.91 (d, <i>J</i> = 4.5 Hz, 2H), 7.64 (d, <i>J</i> = 8.7 Hz, 2H), 7.90 (d, <i>J</i> = 8.7 Hz, 2H), 8.29 (s, 1H), 10.79 (br s, 1H).
10-106		Me-O-CH ₂ -	1.30-1.53 (m, 8H), 1.58-1.79 (m, 8H), 1.96-2.02 (m, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 3.03 (t, <i>J</i> = 6.0 Hz, 2H), 3.31 (s, 3H), 3.69 (t, <i>J</i> = 5.4 Hz, 2H), 3.92-4.03 (m, 1H), 4.33 (t, <i>J</i> = 5.4 Hz, 2H), 8.32 (s, 1H), 9.83 (d, <i>J</i> = 7.2 Hz, 1H).
10-107		Me-O-CH ₂ -	1.35-1.42 (m, 2H), 1.43-1.52 (m, 2H), 1.62-1.79 (m, 4H), 2.70 (t, <i>J</i> = 6.0 Hz, 2H), 3.06 (t, <i>J</i> = 6.0 Hz, 2H), 3.31 (s, 3H), 3.74 (t, <i>J</i> = 5.4 Hz, 2H), 4.40 (d, <i>J</i> = 5.4 Hz, 2H), 4.97 (d, <i>J</i> = 4.5 Hz, 2H), 7.50 (t, <i>J</i> = 7.5 Hz, 2H), 7.61 (t, <i>J</i> = 7.5 Hz, 1H), 8.05 (d, <i>J</i> = 7.5 Hz, 2H), 8.33 (s, 1H), 10.75 (br s, 1H).
10-108		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.52 (m, 6H), 1.63-1.79 (m, 8H), 1.95-2.07 (m, 2H), 2.20-2.33 (m, 2H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.82-2.94 (m, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.55 (br s, 2H), 3.96-4.07 (m, 1H), 4.10 (br t, <i>J</i> = 7.2 Hz, 2H), 7.23-7.40 (m, 5H), 8.27 (s, 1H), 9.97 (br s, 1H).
10-109		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.50 (m, 6H), 1.68-1.79 (m, 6H), 1.81-1.97 (m, 2H), 2.04 (s, 3H), 2.15-2.24 (m, 2H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.01 (t, <i>J</i> = 10.2 Hz, 2H), 3.33-3.41 (m, 2H), 4.09 (br t, <i>J</i> = 7.5 Hz, 2H), 4.10-4.25 (m, 1H), 8.26 (s, 1H), 10.21 (d, <i>J</i> = 7.2 Hz, 1H).

表 1 2 9



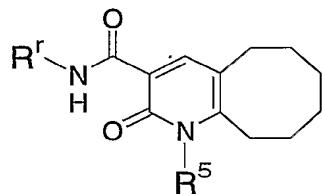
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-110		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.58 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.62-1.79 (m, 8H), 1.97-2.11 (m, 2H), 2.11 (s, 3H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.92-3.02 (m, 1H), 3.21-3.31 (m, 1H), 3.75-3.81 (m, 1H), 4.09 (br t, <i>J</i> = 7.5 Hz, 2H), 4.11-4.23 (m, 1H), 4.37-4.43 (m, 1H), 8.29 (s, 1H), 10.08 (d, <i>J</i> = 7.5 Hz, 1H).
10-111		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.36-1.57 (m, 4H), 1.46 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.62-1.79 (m, 8H), 1.93-2.15 (m, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.11-3.27 (m, 2H), 3.69-3.79 (m, 1H), 4.10 (br t, <i>J</i> = 7.2 Hz, 2H), 4.19-4.30 (m, 1H), 4.50-4.60 (m, 1H), 7.41 (s, 5H), 8.29 (s, 1H), 10.12 (d, <i>J</i> = 7.5 Hz, 1H).
10-112		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.29 (s, 9H), 1.35-1.79 (m, 14H), 2.00-2.09 (m, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.09 (t, <i>J</i> = 11.4 Hz, 2H), 4.06-4.35 (m, 5H), 8.30 (s, 1H), 10.06 (d, <i>J</i> = 7.5 Hz, 1H).
10-113		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.28-1.81 (m, 24H), 1.98-2.10 (m, 2H), 2.44-2.53 (m, 1H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.89-2.99 (m, 1H), 3.15-3.28 (m, 1H), 3.85-3.93 (m, 1H), 4.09 (br t, <i>J</i> = 7.2 Hz, 2H), 4.10-4.25 (m, 1H), 4.40-4.48 (m, 1H), 8.30 (s, 1H), 10.06 (d, <i>J</i> = 6.9 Hz, 1H).
10-114		nBu	1.02 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.78 (m, 14H), 2.07-2.20 (m, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.81 (s, 3H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 2.94-3.01 (m, 2H), 3.70-3.79 (m, 2H), 4.11 (br t, <i>J</i> = 7.5 Hz, 2H), 4.11-4.23 (m, 1H), 8.29 (s, 1H), 10.11 (d, <i>J</i> = 7.2 Hz, 1H).
10-115		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.51 (m, 6H), 1.62-1.78 (m, 8H), 2.03-2.09 (m, 2H), 2.53 (td, <i>J</i> = 11.4 Hz, 2.4 Hz, 2H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.71-3.77 (m, 2H), 3.82-3.94 (m, 1H), 4.07 (br t, <i>J</i> = 7.5 Hz, 2H), 7.52-7.65 (m, 3H), 7.76-7.71 (m, 2H), 8.25 (s, 1H), 10.00 (d, <i>J</i> = 6.9 Hz, 1H).

表 1 3 0



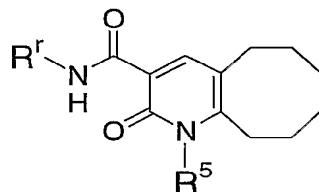
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-116		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.50 (m, 4H), 1.47 (quint, <i>J</i> = 7.2 Hz, 2H), 1.64-1.82 (m, 8H), 2.01-2.09 (m, 2H), 2.25-2.84 (m, 2H), 2.85 (s, 3H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.82-2.90 (m, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.97-4.06 (m, 1H), 4.10 (br t, <i>J</i> = 7.2 Hz, 2H), 8.28 (s, 1H), 9.98 (d, <i>J</i> = 7.2 Hz, 1H).
10-117		Cl	1.21-1.58 (m, 8H), 1.62-1.82 (m, 8H), 1.95-2.00 (m, 2H), 2.20 (dt, <i>J</i> = 15.0 Hz, 6.0 Hz, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 3.69 (t, <i>J</i> = 6.0 Hz, 2H), 3.92-4.02 (m, 1H), 4.28 (t, <i>J</i> = 7.5 Hz, 2H), 8.33 (s, 1H), 9.80 (d, <i>J</i> = 6.9 Hz, 1H).
10-118			1.26-1.52 (m, 8H), 1.60-1.80 (m, 8H), 1.94-2.00 (m, 2H), 2.19 (quint, <i>J</i> = 6.3 Hz, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.06 (s, 3H), 3.92-4.01 (m, 1H), 4.27 (t, <i>J</i> = 7.5 Hz, 2H), 4.38 (t, <i>J</i> = 6.0 Hz, 2H), 8.33 (s, 1H), 9.78 (d, <i>J</i> = 8.1 Hz, 1H).
10-119			1.25-1.52 (m, 8H), 1.59-1.79 (m, 8H), 1.93-2.05 (m, 4H), 2.32 (s, 3H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 2.98 (t, <i>J</i> = 6.9 Hz, 2H), 3.91-4.01 (m, 1H), 4.15 (t, <i>J</i> = 7.2 Hz, 2H), 8.30 (s, 1H), 9.82 (d, <i>J</i> = 7.5 Hz, 1H).
10-120			1.25-1.52 (m, 8H), 1.58-1.80 (m, 8H), 1.93-2.03 (m, 4H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.48 (t, <i>J</i> = 6.0 Hz, 2H), 3.92-4.03 (m, 1H), 4.20 (t, <i>J</i> = 7.5 Hz, 2H), 8.32 (s, 1H), 9.81 (d, <i>J</i> = 6.9 Hz, 1H).
10-121			1.27-1.58 (m, 8H), 1.60-1.81 (m, 8H), 1.92-2.01 (m, 2H), 2.05 (s, 3H), 2.20-2.29 (m, 2H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 2.98 (br s, 2H), 3.90-4.00 (m, 1H), 4.27-4.35 (m, 2H), 8.40 (s, 1H), 9.50 (d, <i>J</i> = 7.5 Hz, 1H).
10-122			1.24-1.52 (m, 8H), 1.62-1.79 (m, 8H), 1.88-2.03 (m, 4H), 2.03 (s, 3H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.24-3.30 (m, 2H), 3.97-4.05 (m, 1H), 4.22 (br t, <i>J</i> = 7.5 Hz, 2H), 6.72 (br s, 1H), 8.35 (s, 1H), 9.81 (d, <i>J</i> = 7.8 Hz, 1H).

表 1 3 1



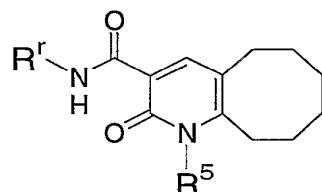
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-123		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.52 (m, 6H), 1.60-1.72 (m, 6H), 1.71-1.80 (m, 2H), 2.07-2.17 (m, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.17 (t, <i>J</i> = 11.1 Hz, 1H), 3.37 (t, <i>J</i> = 11.1 Hz, 1H), 3.92-3.99 (m, 1H), 4.03-4.12 (m, 2H), 4.22-4.37 (m, 2H), 8.28 (s, 1H), 10.17 (d, <i>J</i> = 7.2 Hz, 1H).
10-124		BzHN-CH ₂ -	1.29-1.51 (m, 8H), 1.65-1.77 (m, 8H), 1.92-2.05 (m, 4H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 3.45 (br s, 2H), 3.97-4.05 (m, 1H), 4.32 (br t, <i>J</i> = 7.5 Hz, 2H), 7.42-7.55 (m, 3H), 7.89 (br s, 1H), 7.90-7.96 (m, 2H), 8.37 (s, 1H), 9.90 (d, <i>J</i> = 7.8 Hz, 1H).
10-125			1.25 (s, 9H), 1.28-1.51 (m, 8H), 1.60-1.78 (m, 8H), 1.85-2.00 (m, 4H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.23 (br s, 2H), 3.95-4.04 (m, 1H), 4.22 (br t, <i>J</i> = 7.5 Hz, 2H), 7.12 (br s, 1H), 8.35 (s, 1H), 9.89 (d, <i>J</i> = 7.5 Hz, 1H).
10-126			1.27-1.52 (m, 8H), 1.57-1.80 (m, 14H), 1.83-2.01 (m, 6H), 2.55-2.65 (m, 1H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.25-3.29 (m, 2H), 3.95-4.04 (m, 1H), 4.22 (br t, <i>J</i> = 7.5 Hz, 2H), 6.78 (br s, 1H), 8.34 (s, 1H), 9.85 (d, <i>J</i> = 8.1 Hz, 1H).
10-127			1.29-1.52 (m, 8H), 1.61-1.79 (m, 8H), 1.91-2.02 (m, 4H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.34 (br s, 2H), 3.97-4.04 (m, 1H), 4.27 (br t, <i>J</i> = 7.5 Hz, 2H), 8.39 (s, 1H), 8.67 (br s, 1H), 9.76 (d, <i>J</i> = 8.1 Hz, 1H).
10-128		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.40-1.54 (m, 6H), 1.68-1.81 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.15 (br t, <i>J</i> = 7.5 Hz, 2H), 7.18 (d, <i>J</i> = 7.5 Hz, 1H), 7.53 (t, <i>J</i> = 7.5 Hz, 1H), 8.33 (d, <i>J</i> = 7.5 Hz, 1H), 8.34 (s, 1H), 12.69 (br s, 1H).

表 1 3 2



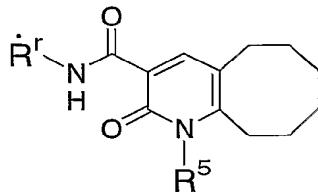
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-129		nBu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.54 (m, 6H), 1.65-1.81 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.17 (br t, <i>J</i> = 7.2 Hz, 2H), 6.22 (s, 1H × 1/5), 6.39 (s, 1H × 1/5), 6.47 (s, 1H × 1/5), 6.64 (s, 1H × 1/5), 6.88 (s, 1H × 1/5), 7.01-7.10 (m, 1H), 7.18-7.27 (m, 2H), 8.36 (s, 1H), 8.60 (dd, <i>J</i> = 7.8 Hz, 1.8 Hz, 1H), 12.59 (br s, 1H).
10-130		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.53 (m, 4H), 1.47 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.65-1.82 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.18 (br t, <i>J</i> = 7.5 Hz, 2H), 7.08 (td, <i>J</i> = 8.4 Hz, 1.8 Hz, 1H), 7.26-7.34 (m, 2H), 8.36 (s, 1H), 8.64 (dd, <i>J</i> = 9.0 Hz, 1.8 Hz, 1H), 12.76 (br s, 1H).
10-131		nBu	1.00 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.54 (m, 4H), 1.47 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.82 (m, 6H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.5 Hz, 2H), 7.41 (s, 1H), 8.34 (s, 1H), 13.49 (br s, 1H).
10-132		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.38-1.52 (m, 4H), 1.48 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63-1.85 (m, 6H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 4.17 (br t, <i>J</i> = 7.5 Hz, 2H), 7.27-7.32 (m, 1H), 7.36-7.42 (m, 2H), 7.57-7.61 (m, 2H), 7.71 (s, 1H), 8.37 (s, 1H), 13.52 (br s, 1H).
10-133		nBu	1.01 (t, <i>J</i> = 7.5 Hz, 3H), 1.40-1.55 (m, 4H), 1.49 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.65-1.81 (m, 6H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 4.19 (br t, <i>J</i> = 7.5 Hz, 2H), 7.38-7.52 (m, 4H), 7.78 (t, <i>J</i> = 8.1 Hz, 1H), 8.09 (d, <i>J</i> = 8.1 Hz, 2H), 8.33 (d, <i>J</i> = 8.1 Hz, 1H), 8.40 (s, 1H), 12.61 (br s, 1H).
10-134		MsHN-CH ₂ -	1.28-1.52 (m, 8H), 1.63-1.80 (m, 8H), 1.92-2.01 (m, 4H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (s, 3H), 3.08 (q, <i>J</i> = 5.4 Hz, 2H), 3.94-4.02 (m, 1H), 4.29 (br t, <i>J</i> = 7.5 Hz, 2H), 5.84 (br t, <i>J</i> = 7.5 Hz, 1H), 8.35 (s, 1H), 9.72 (d, <i>J</i> = 7.5 Hz, 1H).

表 1 3 3



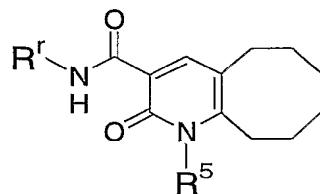
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-135			1.29-1.50 (m, 8H), 1.63-1.78 (m, 8H), 1.86-2.00 (m, 4H), 2.61 (t, <i>J</i> = 6.0 Hz, 2H), 2.79-2.90 (m, 2H), 2.85 (t, <i>J</i> = 6.0 Hz, 2H), 3.95-4.03 (m, 1H), 4.24 (br t, <i>J</i> = 7.5 Hz, 2H), 6.19 (br s, 1H), 7.44-7.58 (m, 3H), 7.82-7.87 (m, 2H), 8.34 (s, 1H), 9.75 (d, <i>J</i> = 7.5 Hz, 1H).
10-136		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.53 (m, 4H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.64-1.77 (m, 6H), 2.31 (s, 3H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.21, 3.66 (ABx, <i>J</i> = 13.8 Hz, 6.0 Hz, 2H), 4.10 (br t, <i>J</i> = 7.5 Hz, 2H), 5.92-6.00 (m, 1H), 7.46-7.52 (m, 2H), 7.55-7.62 (m, 1H), 8.12-8.16 (m, 2H), 8.27 (s, 1H), 10.76 (d, <i>J</i> = 8.4 Hz, 1H).
10-137		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.36-1.52 (m, 4H), 1.45 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.63-1.77 (m, 6H), 2.31 (s, 3H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 3.21, 3.66 (ABx, <i>J</i> = 13.8 Hz, 6.0 Hz, 2H), 4.11 (br t, <i>J</i> = 7.5 Hz, 2H), 5.92-6.00 (m, 1H), 7.46-7.62 (m, 3H), 8.12-8.16 (m, 2H), 8.27 (s, 1H), 10.75 (d, <i>J</i> = 7.8 Hz, 1H).
10-138		Me-CH ₂ -CH ₂ -Me	1.01 (d, <i>J</i> = 6.9 Hz, 6H), 1.38-1.52 (m, 4H), 1.60-1.73 (m, 5H), 1.78 (quint, <i>J</i> = 6.0 Hz, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.96 (t, <i>J</i> = 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.5 Hz, 2H), 4.97 (d, <i>J</i> = 4.8 Hz, 2H), 7.50 (t, <i>J</i> = 7.5 Hz, 2H), 7.61 (t, <i>J</i> = 7.5 Hz, 1H), 8.02-8.06 (m, 2H), 8.30 (s, 1H), 10.79 (br s, 1H).
10-139			1.05-1.38 (m, 6H), 1.50 (br s, 2H), 1.63-1.77 (m, 10H), 1.82-1.93 (m, 1H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 4.04 (br s, 2H), 4.97 (d, <i>J</i> = 4.5 Hz, 2H), 7.50 (t, <i>J</i> = 7.5 Hz, 2H), 7.61 (t, <i>J</i> = 7.5 Hz, 1H), 8.02-8.06 (m, 2H), 8.31 (s, 1H), 10.79 (br s, 1H).
10-140			1.31-1.51 (m, 10H), 1.57-1.79 (m, 14H), 1.94-2.01 (m, 2H), 2.50-2.66 (m, 8H), 3.90-4.01 (m, 1H), 4.28 (br t, <i>J</i> = 7.5 Hz, 2H), 8.30 (s, 1H), 9.84 (d, <i>J</i> = 7.8 Hz, 1H).

表 1 3 4



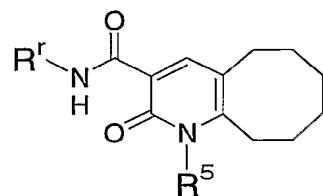
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-141			1.01 (t, <i>J</i> = 6.3 Hz, 6H), 1.34-1.53 (m, 4H), 1.56-1.80 (m, 9H), 1.97-2.05 (m, 2H), 2.17-2.27 (m, 2H), 2.62 (t, <i>J</i> = 6.0 Hz, 2H), 2.81-2.89 (m, 2H), 2.87 (t, <i>J</i> = 6.0 Hz, 2H), 3.54 (s, 2H), 3.96-4.04 (m, 1H), 4.11 (br t, <i>J</i> = 7.5 Hz, 2H), 7.26-7.85 (m, 5H), 8.27 (s, 1H), 9.96 (d, <i>J</i> = 7.2 Hz, 1H).
10-142			1.05-1.86 (m, 8H), 1.48 (br s, 2H), 1.64-1.88 (m, 11H), 1.96-2.05 (m, 2H), 2.22 (t, <i>J</i> = 9.9 Hz, 2H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.81-2.86 (m, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.54 (s, 2H), 3.93-4.02 (m, 3H), 7.23-7.36 (m, 5H), 8.29 (s, 1H), 9.96 (d, <i>J</i> = 7.8 Hz, 1H).
10-143			1.02 (d, <i>J</i> = 6.6 Hz, 6H), 1.36-1.73 (m, 8H), 1.77 (quint, <i>J</i> = 6.0 Hz, 4H), 1.98-2.10 (m, 1H), 2.05 (s, 3H), 2.21-2.30 (m, 2H), 2.61-2.68 (m, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.09 (t, <i>J</i> = 9.9 Hz, 2H), 3.42-3.50 (m, 2H), 4.05-4.21 (m, 3H), 8.25 (s, 1H), 10.27 (d, <i>J</i> = 6.3 Hz, 1H).
10-144			1.01 (d, <i>J</i> = 6.6 Hz, 6H), 1.36-1.72 (m, 9H), 1.76 (quint, <i>J</i> = 6.0 Hz, 4H), 1.99-2.10 (m, 2H), 2.11 (s, 3H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 2.91-3.00 (m, 1H), 3.21-3.03 (m, 1H), 3.76-3.81 (m, 1H), 4.10 (br t, <i>J</i> = 7.5 Hz, 2H), 4.11-4.25 (m, 1H), 4.36-4.44 (m, 1H), 8.28 (s, 1H), 10.07 (d, <i>J</i> = 7.2 Hz, 1H).
10-145			1.01 (d, <i>J</i> = 6.3 Hz, 6H), 1.37-1.80 (m, 18H), 2.08-2.16 (m, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.81 (s, 3H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 2.89-2.99 (m, 2H), 3.68-3.76 (m, 2H), 4.05-4.16 (m, 3H), 8.27 (s, 1H), 10.10 (d, <i>J</i> = 7.2 Hz, 1H).
10-146			1.01 (d, <i>J</i> = 6.3 Hz, 6H), 1.38-1.78 (m, 18H), 2.08-2.15 (m, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.11-3.21 (m, 1H), 3.31-3.41 (m, 1H), 3.96 (t, <i>J</i> = 14.4 Hz, 1H), 4.14 (br t, <i>J</i> = 7.5 Hz, 2H), 4.21-4.38 (m, 2H), 8.28 (s, 1H), 10.16 (d, <i>J</i> = 7.5 Hz, 1H).

表 1 3 5



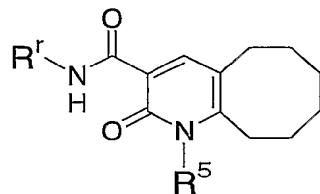
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-147			1.06-1.40 (m, 8H), 1.49 (br s, 2H), 1.61-1.99 (m, 11H), 2.18-2.28 (m, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 3.04 (t, <i>J</i> = 10.5 Hz, 2H), 3.38-3.44 (m, 2H), 4.05-4.20 (m, 3H), 8.26 (s, 1H), 10.23 (d, <i>J</i> = 7.2 Hz, 1H).
10-148			1.02-1.83 (m, 8H), 1.45-1.80 (m, 13H), 1.98-2.10 (m, 2H), 2.11 (s, 3H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 2.93-3.01 (m, 1H), 3.21-3.31 (m, 1H), 3.74-3.81 (m, 1H), 3.99 (br s, 1H), 4.10-4.23 (m, 2H), 4.37-4.43 (m, 1H), 8.29 (s, 1H), 10.08 (d, <i>J</i> = 7.8 Hz, 1H).
10-149			1.02-1.83 (m, 8H), 1.49 (br s, 2H), 1.60-1.81 (m, 11H), 2.08-2.15 (m, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.81 (s, 3H), 2.90-3.00 (m, 4H), 3.69-3.76 (m, 2H), 3.99 (br s, 1H), 4.06-4.12 (m, 2H), 8.28 (s, 1H), 10.10 (d, <i>J</i> = 7.2 Hz, 1H).
10-150			1.03-1.88 (m, 8H), 1.49 (br s, 2H), 1.60-1.85 (m, 11H), 2.07-2.17 (m, 2H), 2.65 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.11-3.21 (m, 1H), 3.31-3.41 (m, 1H), 3.96 (d, <i>J</i> = 14.4 Hz, 2H), 4.00 (br s, 1H), 4.22-4.38 (m, 2H), 8.29 (s, 1H), 10.17 (d, <i>J</i> = 7.5 Hz, 1H).
10-151		nBu	1.00 (t, <i>J</i> = 7.2 Hz, 3H), 1.37-1.54 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.66-1.83 (m, 6H), 2.49 (s, 3H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.2 Hz, 2H), 6.87 (d, <i>J</i> = 7.5 Hz, 1H), 7.59 (t, <i>J</i> = 7.5 Hz, 1H), 8.15 (d, <i>J</i> = 8.4 Hz, 1H), 8.37 (s, 1H), 12.55 (br s, 1H).
10-152		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.38-1.54 (m, 4H), 1.46 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.66-1.83 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.15 (t, <i>J</i> = 7.2 Hz, 2H), 6.99-7.04 (m, 1H), 7.67-7.74 (m, 1H), 8.33-8.37 (m, 2H), 8.36 (s, 1H), 12.77 (br s, 1H).
10-153		MeO ₂ CH	1.36-1.43 (m, 2H), 1.47-1.55 (m, 2H), 1.65-1.80 (m, 4H), 2.69 (t, <i>J</i> = 6.0 Hz, 2H), 3.08 (t, <i>J</i> = 6.0 Hz, 2H), 3.31 (s, 3H), 3.74 (t, <i>J</i> = 5.1 Hz, 2H), 4.39 (t, <i>J</i> = 5.1 Hz, 2H), 7.18 (dd, <i>J</i> = 7.5 Hz, 0.9 Hz, 1H), 7.54 (t, <i>J</i> = 7.8 Hz, 1H), 8.33 (dd, <i>J</i> = 8.1 Hz, 0.9 Hz, 1H), 8.37 (s, 1H), 12.62 (br s, 1H).

表 1 3 6



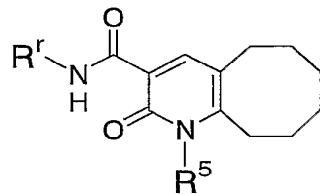
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-154			1.88-1.83 (m, 14H), 2.52-2.73 (m, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 3.02 (br t, <i>J</i> = 6.0 Hz, 2H), 4.89 (br t, <i>J</i> = 7.5 Hz, 2H), 7.19 (dd, <i>J</i> = 7.5 Hz, 0.6 Hz, 1H), 7.54 (t, <i>J</i> = 7.5 Hz, 1H), 8.33 (dd, <i>J</i> = 8.4 Hz, 0.6 Hz, 1H), 8.35 (s, 1H), 12.58 (br s, 1H).
10-155			1.37-1.55 (m, 4H), 1.67-1.86 (m, 4H), 1.97 (quint, <i>J</i> = 6.0 Hz, 2H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.97 (t, <i>J</i> = 6.0 Hz, 2H), 3.60 (t, <i>J</i> = 5.7 Hz, 2H), 4.39 (br t, <i>J</i> = 7.5 Hz, 2H), 7.20 (dd, <i>J</i> = 7.5 Hz, 0.6 Hz, 1H), 7.54 (t, <i>J</i> = 7.8 Hz, 1H), 8.38 (dd, <i>J</i> = 8.1 Hz, 0.6 Hz, 1H), 8.40 (s, 1H), 12.45 (br s, 1H).
10-156			1.39-1.46 (m, 2H), 1.47-1.56 (m, 2H), 1.66-1.74 (m, 2H), 1.77-1.85 (m, 2H), 2.23 (quint, <i>J</i> = 6.0 Hz, 2H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 3.10 (s, 3H), 4.33 (t, <i>J</i> = 7.5 Hz, 2H), 4.40 (t, <i>J</i> = 6.0 Hz, 2H), 7.19 (dd, <i>J</i> = 7.5 Hz, 0.6 Hz, 1H), 7.55 (t, <i>J</i> = 7.8 Hz, 1H), 8.32 (dd, <i>J</i> = 8.4 Hz, 0.6 Hz, 1H), 8.37 (s, 1H), 12.56 (br s, 1H).
10-157			1.37-1.45 (m, 2H), 1.47-1.56 (m, 2H), 1.66-1.74 (m, 2H), 1.76-1.85 (m, 2H), 2.03 (quint, <i>J</i> = 7.5 Hz, 2H), 2.37 (s, 3H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 3.00 (t, <i>J</i> = 7.2 Hz, 2H), 4.21 (t, <i>J</i> = 7.5 Hz, 2H), 7.18 (d, <i>J</i> = 7.5 Hz, 1H), 7.54 (t, <i>J</i> = 7.5 Hz, 1H), 8.32 (d, <i>J</i> = 8.4 Hz, 1H), 8.35 (s, 1H), 12.59 (br s, 1H).
10-158			1.38-1.45 (m, 2H), 1.47-1.56 (m, 2H), 1.66-1.74 (m, 2H), 1.77-1.86 (m, 2H), 1.97-2.07 (m, 2H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.95 (t, <i>J</i> = 6.0 Hz, 2H), 3.52 (t, <i>J</i> = 6.0 Hz, 2H), 4.25 (t, <i>J</i> = 7.5 Hz, 2H), 7.19 (dd, <i>J</i> = 7.5 Hz, 0.6 Hz, 1H), 7.54 (t, <i>J</i> = 7.8 Hz, 1H), 8.32 (dd, <i>J</i> = 8.4 Hz, 0.6 Hz, 1H), 8.36 (s, 1H), 12.58 (br s, 1H).

表 1 3 7



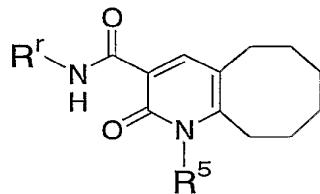
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-159		AcHN-CH ₂ -CH ₃	1.38-1.44 (m, 2H), 1.47-1.56 (m, 2H), 1.65-1.74 (m, 2H), 1.76-1.84 (m, 2H), 1.94 (quint, <i>J</i> = 6.6 Hz, 2H), 2.10 (s, 3H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.98 (t, <i>J</i> = 6.0 Hz, 2H), 3.30 (q, <i>J</i> = 6.0 Hz, 2H), 4.26 (br t, <i>J</i> = 7.5 Hz, 2H), 6.63 (br t, <i>J</i> = 7.5 Hz, 1H), 7.21 (dd, <i>J</i> = 8.1 Hz, 0.6 Hz, 1H), 7.56 (t, <i>J</i> = 7.8 Hz, 1H), 8.34 (dd, <i>J</i> = 8.1 Hz, 0.6 Hz, 1H), 8.39 (s, 1H), 12.51 (br s, 1H).
10-160		MsHN-CH ₂ -CH ₃	1.41-1.85 (m, 8H), 2.01-2.11 (m, 2H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.94 (t, <i>J</i> = 6.0 Hz, 2H), 3.04 (s, 3H), 3.18 (q, <i>J</i> = 6.0 Hz, 2H), 4.34 (br t, <i>J</i> = 7.5 Hz, 2H), 5.58 (br t, <i>J</i> = 7.5 Hz, 1H), 7.20 (dd, <i>J</i> = 7.5 Hz, 0.6 Hz, 1H), 7.55 (t, <i>J</i> = 7.8 Hz, 1H), 8.31 (dd, <i>J</i> = 8.1 Hz, 0.6 Hz, 1H), 8.39 (s, 1H), 12.45 (br s, 1H).
10-161		F ₃ C-CH ₂ -NHC(=O)-CH ₂ -CH ₃	1.42-1.83 (m, 8H), 2.03 (quint, <i>J</i> = 6.0 Hz, 2H), 2.69 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 3.41 (q, <i>J</i> = 6.0 Hz, 2H), 4.80 (br t, <i>J</i> = 7.5 Hz, 2H), 7.22 (dd, <i>J</i> = 7.8 Hz, 0.6 Hz, 1H), 7.56 (t, <i>J</i> = 7.8 Hz, 1H), 8.13 (br s, 1H), 8.31 (dd, <i>J</i> = 7.8 Hz, 0.6 Hz, 1H), 8.42 (s, 1H), 12.40 (br s, 1H).
10-162		nBu	0.99 (t, <i>J</i> = 7.2 Hz, 3H), 1.39-1.57 (m, 4H), 1.47 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.65-1.83 (m, 6H), 2.51 (s, 3H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.92 (t, <i>J</i> = 6.0 Hz, 2H), 4.16 (br t, <i>J</i> = 7.2 Hz, 2H), 6.86 (d, <i>J</i> = 4.8 Hz, 1H), 8.41 (s, 1H), 8.54 (d, <i>J</i> = 4.8 Hz, 1H), 12.91 (br s, 1H).
10-163		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.39-1.53 (m, 4H), 1.46 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.65-1.82 (m, 6H), 2.47 (s, 6H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 4.15 (br t, <i>J</i> = 7.5 Hz, 2H), 6.74 (s 1H), 8.41 (s, 1H), 12.75 (br s, 1H).
10-164		OHC-CH ₂ -CH ₃	1.22-1.52 (m, 8H), 1.63-1.79 (m, 8H), 1.92-2.00 (m, 2H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 2.96 (t, <i>J</i> = 7.2 Hz, 2H), 3.92-4.03 (m, 1H), 4.42 (t, <i>J</i> = 7.2 Hz, 2H), 8.82 (s, 1H), 9.75 (d, <i>J</i> = 7.5 Hz, 1H), 9.84 (s, 1H).

表 1 3 8



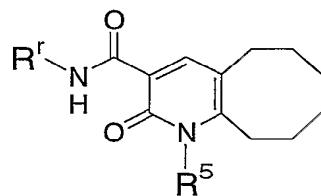
化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-165			1.20 (d, <i>J</i> = 6.6 Hz, 3H), 1.21-1.87 (m, 18H), 1.90-2.01 (m, 2H), 2.55-2.73 (m, 2H), 2.85-3.02 (m, 2H), 3.62-3.70 (m, 1H), 3.92-4.01 (m, 2H), 4.65-4.78 (m, 1H), 8.36 (s, 1H), 9.77 (d, <i>J</i> = 7.5 Hz, 1H).
10-166			1.23-1.51 (m, 8H), 1.58-1.78 (m, 8H), 1.94-2.00 (m, 2H), 2.20 (s, 3H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 2.93 (t, <i>J</i> = 7.5 Hz, 2H), 3.92-4.01 (m, 1H), 4.36 (t, <i>J</i> = 7.5 Hz, 2H), 8.31 (s, 1H), 9.78 (d, <i>J</i> = 8.1 Hz, 1H).
10-167			1.38-1.43 (m, 2H), 1.44-1.52 (m, 2H), 1.65-1.83 (m, 4H), 1.86-1.95 (m, 2H), 1.91-2.05 (m, 1H), 2.63-2.74 (m, 1H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.85-2.96 (m, 1H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 2.99-3.09 (m, 1H), 3.51 (br t, <i>J</i> = 4.5 Hz, 2H), 4.22-4.38 (m, 2H), 5.66 (q, <i>J</i> = 7.5 Hz, 1H), 7.19-7.38 (m, 4H), 8.48 (s, 1H), 10.11 (d, <i>J</i> = 6.9 Hz, 1H).
10-168			1.38-1.42 (m, 2H), 1.44-1.52 (m, 2H), 1.64-1.80 (m, 4H), 1.91-2.08 (m, 1H), 2.11-2.21 (m, 2H), 2.62-2.73 (m, 1H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.83-2.96 (m, 1H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 2.99-3.06 (m, 1H), 3.02 (s, 3H), 4.25 (t, <i>J</i> = 6.9 Hz, 2H), 4.33 (t, <i>J</i> = 6.0 Hz, 2H), 5.67 (q, <i>J</i> = 7.8 Hz, 1H), 7.16-7.26 (m, 3H), 7.35-7.39 (m, 1H), 8.39 (s, 1H), 10.13 (d, <i>J</i> = 8.4 Hz, 1H).
10-169			1.37-1.43 (m, 2H), 1.44-1.53 (m, 2H), 1.67-1.80 (m, 4H), 1.91-2.10 (m, 1H), 2.00-2.20 (m, 2H), 2.62-2.73 (m, 1H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.84-2.96 (m, 1H), 2.93 (t, <i>J</i> = 6.0 Hz, 2H), 2.98-3.08 (m, 1H), 4.25 (sextet, <i>J</i> = 7.5 Hz, 2H), 4.45 (t, <i>J</i> = 7.8 Hz, 1H), 4.61 (t, <i>J</i> = 5.4 Hz, 1H), 5.67 (q, <i>J</i> = 7.5 Hz, 1H), 7.16-7.28 (m, 3H), 7.35-7.39 (m, 1H), 8.39 (s, 1H), 10.17 (d, <i>J</i> = 6.6 Hz, 1H).

表 139



化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-170			1.38-1.43 (m, 2H), 1.44-1.54 (m, 2H), 1.67-1.82 (m, 4H), 1.91-2.06 (m, 1H), 2.06 (quint, <i>J</i> = 7.5 Hz, 2H), 2.49 (t, <i>J</i> = 7.2 Hz, 2H), 2.62-2.74 (m, 1H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.85-2.96 (m, 1H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 2.99-3.09 (m, 1H), 4.21 (sextet, <i>J</i> = 7.2 Hz, 2H), 5.67 (q, <i>J</i> = 7.5 Hz, 1H), 7.19-7.26 (m, 3H), 7.35-7.39 (m, 1H), 8.40 (s, 1H), 10.08 (d, <i>J</i> = 8.1 Hz, 1H).
10-171			1.37-1.44 (m, 2H), 1.45-1.55 (m, 2H), 1.67-1.80 (m, 4H), 1.93-2.03 (m, 3H), 2.62-2.73 (m, 1H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.84-2.96 (m, 1H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 2.99-3.09 (m, 1H), 3.50 (t, <i>J</i> = 6.0 Hz, 2H), 4.17 (sextet, <i>J</i> = 7.5 Hz, 2H), 5.67 (q, <i>J</i> = 7.8 Hz, 1H), 7.18-7.26 (m, 3H), 7.35-7.39 (m, 1H), 8.39 (s, 1H), 10.16 (d, <i>J</i> = 8.4 Hz, 1H).
10-172			1.37-1.43 (m, 2H), 1.44-1.52 (m, 2H), 1.63-1.78 (m, 4H), 1.83-2.02 (m, 1H), 1.87 (quint, <i>J</i> = 6.0 Hz, 2H), 1.95 (s, 3H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.69-2.76 (m, 1H), 2.88-2.95 (m, 1H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 2.97-3.08 (m, 1H), 3.23 (quint, <i>J</i> = 6.0 Hz, 2H), 4.19 (br t, <i>J</i> = 7.5 Hz, 2H), 5.67 (q, <i>J</i> = 7.5 Hz, 1H), 6.65 (br t, <i>J</i> = 7.5 Hz, 1H), 7.18-7.28 (m, 3H), 7.36-7.39 (m, 1H), 8.41 (s, 1H), 10.15 (d, <i>J</i> = 8.1 Hz, 1H).
10-173			1.37-1.42 (m, 2H), 1.44-1.53 (m, 2H), 1.63-1.78 (m, 4H), 1.90-2.02 (m, 3H), 2.62-2.73 (m, 1H), 2.67 (t, <i>J</i> = 6.0 Hz, 2H), 2.84 (s, 3H), 2.85-2.97 (m, 1H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 3.00-3.10 (m, 2H), 4.25 (br s, 2H), 5.67 (q, <i>J</i> = 7.5 Hz, 2H), 7.19-7.36 (m, 4H), 8.42 (s, 1H), 10.06 (d, <i>J</i> = 8.1 Hz, 1H).
10-174			1.38-1.43 (m, 2H), 1.44-1.52 (m, 2H), 1.65-1.80 (m, 4H), 1.88-2.00 (m, 3H), 2.68 (t, <i>J</i> = 6.0 Hz, 2H), 2.69-2.76 (m, 1H), 2.88-2.98 (m, 1H), 2.91 (t, <i>J</i> = 6.0 Hz, 2H), 3.00-3.10 (m, 1H), 3.25-3.37 (m, 2H), 4.24 (br s, 2H), 5.61 (q, <i>J</i> = 7.5 Hz, 1H), 7.18-7.39 (m, 4H), 8.42 (br s, 1H), 8.44 (s, 1H), 10.05 (d, <i>J</i> = 7.2 Hz, 1H).

表 1 4 0



化合物 No.	R ^r	R ⁵	¹ H-NMR (CDCl ₃)
10-175		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.02-1.28 (m, 6H), 1.36-1.52 (m, 8H), 1.62-1.80 (m, 8H), 1.92 (br d, <i>J</i> = 12.0 Hz, 1H), 2.64 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 3.45-3.62 (m, 3H), 4.07-4.15 (m, 2H), 8.30 (s, 1H), 10.28 (br s, 1H).
10-176		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.20-1.51 (m, 14H), 1.58-1.91 (m, 8H), 2.41-2.50 (m, 1H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.12 (br t, <i>J</i> = 7.5 Hz, 2H), 4.36 (d, <i>J</i> = 5.4 Hz, 2H), 8.26 (s, 1H), 10.50 (br s, 1H).
10-177		nBu	0.98 (t, <i>J</i> = 7.5 Hz, 3H), 1.15 (d, <i>J</i> = 6.6 Hz, 3H), 1.37-1.53 (m, 4H), 1.44 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.61-1.81 (m, 6H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 4.09 (br t, <i>J</i> = 7.5 Hz, 2H), 4.39-4.48 (m, 1H), 4.98 (d, <i>J</i> = 2.7 Hz, 1H), 7.23-7.39 (m, 5H), 8.38 (s, 1H), 10.10 (d, <i>J</i> = 7.5 Hz, 1H).
10-178		nBu	0.98 (t, <i>J</i> = 7.2 Hz, 3H), 1.15 (d, <i>J</i> = 6.9 Hz, 3H), 1.37-1.53 (m, 4H), 1.44 (sextet, <i>J</i> = 7.2 Hz, 2H), 1.62-1.80 (m, 6H), 2.66 (t, <i>J</i> = 6.0 Hz, 2H), 2.90 (t, <i>J</i> = 6.0 Hz, 2H), 4.09 (br t, <i>J</i> = 7.2 Hz, 2H), 4.39-4.49 (m, 1H), 4.98 (d, <i>J</i> = 2.7 Hz, 1H), 7.23-7.40 (m, 5H), 8.38 (s, 1H), 10.10 (d, <i>J</i> = 6.9 Hz, 1H).
10-179		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.50 (m, 4H), 1.43 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.54 (d, <i>J</i> = 7.5 Hz, 3H), 1.63-1.80 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.88 (t, <i>J</i> = 6.0 Hz, 2H), 4.12 (br t, <i>J</i> = 7.5 Hz, 2H), 5.69-5.79 (m, 1H), 7.45-7.51 (m, 2H), 7.55-7.61 (m, 1H), 8.05-8.09 (m, 2H), 8.28 (s, 1H), 10.73 (d, <i>J</i> = 6.9 Hz, 1H).
10-180		nBu	0.99 (t, <i>J</i> = 7.5 Hz, 3H), 1.37-1.50 (m, 4H), 1.43 (sextet, <i>J</i> = 7.5 Hz, 2H), 1.54 (d, <i>J</i> = 6.9 Hz, 3H), 1.65-1.80 (m, 6H), 2.63 (t, <i>J</i> = 6.0 Hz, 2H), 2.89 (t, <i>J</i> = 6.0 Hz, 2H), 4.12 (br t, <i>J</i> = 7.5 Hz, 2H), 5.69-5.79 (m, 1H), 7.45-7.51 (m, 2H), 7.55-7.61 (m, 1H), 8.05-8.09 (m, 2H), 8.28 (s, 1H), 10.73 (d, <i>J</i> = 7.2 Hz, 1H).